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## Factors affecting teaching efficacy of beginning secondary agricultural education teachers

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# FACTORS AFFECTING TEACHING EFFICACY OF BEGINNING SECONDARY AGRICULTURAL EDUCATION TEACHERS

A Dissertation

Submitted to the Graduate Faculty of the  
Louisiana State University and  
Agricultural and Mechanical College  
in partial fulfillment of the  
Requirements for the degree of  
Doctor of Philosophy

in

The School of Human Resource Education  
and Workforce Development

by

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This dissertation is dedicated to my parents, Dean and Nancy Swafford.

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# TABLE OF CONTENTS

ACKNOWLEDGEMENTS .....	iii
LIST OF TABLES .....	viii
LIST OF FIGURES .....	x
ABSTRACT.....	xi
CHAPTER 1: INTRODUCTION .....	1
Background of the Study .....	1
Statement of the Problem.....	7
Purpose and Research Questions .....	8
Significance of the Study .....	9
Definition of Terms .....	10
CHAPTER 2: REVIEW OF THE LITERATURE .....	12
Introduction.....	12
Social Cognitive Theory .....	12
Personal and Behavior Interaction .....	13
Environmental and Personal Interaction .....	13
Behavior and Environmental Interaction .....	14
Symbolizing and Vicarious Capabilities .....	15
Forethought Capability.....	17
Self-Reflective Capability .....	18
Self-Regulatory Capability.....	18
Teacher Preparation Program Quality .....	21
Support within the Organization.....	25
Collective Efficacy .....	27
Organizational Agency and Organizational Learning.....	28
Sources of Collective Efficacy Information.....	28
Elements of Collective Efficacy.....	30
Relationship between Collective and Individual Teacher Efficacy.....	32
Relationships Between Support With the Organization, and School Size and Setting .....	34
Relationships Between Teachers Tasks and Responsibilities, and School Size and Setting.....	35
Relationships Between Collective Efficacy, and School Size and Setting.....	36
Relationships Between Teacher Efficacy and Selected Variables .....	37
Gender .....	38
Type of Certification .....	38
Prior FFA or 4-H Involvement.....	39
Summary of the Research Literature .....	40
Conceptual Framework.....	40
CHAPTER 3: METHODOLOGY .....	42
Population .....	42

Instrumentation .....	42
Teaching Efficacy Scale .....	42
Principal Behavior Scale .....	44
Collective Efficacy Scale – Short Form .....	45
Teacher Preparation Scale .....	47
Demographics .....	47
Pilot Test .....	47
Pilot Data Regarding Teacher Preparation Scale .....	49
Data Collection .....	50
Sample Data Representative of the Population .....	52
Data Analysis .....	52
Outliers .....	54
Multicollinearity .....	54
CHAPTER 4: FINDINGS .....	56
Research Objective 1: Selected Personal and Demographic Characteristics of Beginning Agriculture Teachers .....	58
Gender .....	58
Race/Ethnicity .....	58
Age .....	58
Teaching Experience .....	59
Teacher Certification .....	60
School Demographics .....	61
Community Demographics .....	63
Prior FFA/4-H Membership .....	63
Research Objective 2: Selected Characteristics of Beginning Agriculture Teachers .....	64
Principal Support .....	64
Teacher Preparation Program Quality .....	66
Teaching Efficacy .....	68
Perceived Collective Efficacy .....	71
Research Objective 3: Describe the Differences among Teachers' Perceptions by Selected Demographic Characteristics .....	74
Research Objective 4: Relationships among Study Variables .....	75
Research Objective 5: Variance in Teaching Efficacy Explained by Selected Variables .....	76
CHAPTER 5: SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS .....	78
Summary .....	78
Purpose and Research Questions .....	78
Methodology .....	79
Summary of Findings .....	81
Conclusions .....	83
Recommendations .....	86
REFERENCES .....	88

APPENDIX A: NCATE STANDARDS FOR TEACHER PREPARATION PROGRAMS.....	98
APPENDIX B: AAAE NATIONAL STANDARDS FOR TEACHER EDUCATION IN AGRICULTURE .....	100
APPENDIX C: RESEARCH INSTRUMENT .....	112
APPENDIX D: LOUISIANA STATE UNIVERSITY INSTITUTIONAL REVIEW BOARD FOR PROTECTION OF HUMAN SUBJECTS APPROVAL LETTER .....	131
APPENDIX E: INITIAL EMAIL REQUEST TO PARTICIPATE IN THE STUDY .....	132
APPENDIX F: SECOND EMAIL REQUESTING PARTICIPATION IN THE STUDY .....	133
APPENDIX G: THIRD EMAIL REQUESTING PARTICIPATION IN THE STUDY .....	134
APPENDIX H: PERMISSION TO USE AND MODIFY TEACHERS' SENSE OF EFFICACY SCALE-SHORT FORM.....	135
APPENDIX I: PERMISSION TO USE AND MODIFY THE ORGANIZATIONAL CLIMATE DESCRIPTION QUESTIONNAIRE FOR SCEONDARY SCHOOLS AND COLLECTIVE EFFICACY SCALE – SHORT FORM .....	136
VITA .....	137

## LIST OF TABLES

Table 1.	Sub-scale Statements for the Teachers' Sense of Efficacy Scale – Short Form .....	43
Table 2.	Reliability Data for the Teachers' Sense of Efficacy Scale .....	43
Table 3.	Modified Statements of the Teachers' Sense of Efficacy Scale – Short Form for Beginning Agriculture Teachers in Missouri and Kansas .....	44
Table 4.	Factor Loadings for the Principal Behavior Scale used to Determine the Frequency of Principal Support as Perceived by Beginning Agriculture Teachers in Missouri and Kansas .....	45
Table 5.	Factor Loadings for the Collective Efficacy Scale – Short Form as Reported by Goddard (2002) .....	46
Table 6.	Factor Matrix for the Teacher Preparation Scale for Beginning Agriculture Teachers in Missouri and Kansas .....	50
Table 7.	Analysis of Differences in Scale Means between Responding and Nonresponding Beginning Agriculture Teachers in Missouri and Kansas .....	57
Table 8.	Teaching Experience of Beginning Agriculture Teachers in Missouri and Kansas .....	59
Table 9.	Current School Teaching Experience of Beginning Agriculture Teachers in Missouri and Kansas .....	59
Table 10.	Beginning Missouri and Kansas Agriculture Teachers' Years of Teaching Experience in Subjects other than Agricultural Education .....	60
Table 11.	Teacher Certification Methods of Beginning Missouri and Kansas Agricultural Education Teachers .....	61
Table 12.	Student Enrollment at Schools Where Beginning Agriculture Teachers in Missouri and Kansas Taught .....	62
Table 13.	Agricultural Education Enrollment in Missouri and Kansas Schools Where Beginning Agriculture Teachers Taught .....	62
Table 14.	FFA Membership in Schools Where Beginning Missouri and Kansas Agriculture Teachers Taught .....	62
Table 15.	Agricultural Education Department Faculty Size at Missouri and Kansas Schools Where Beginning Agriculture Teachers Taught .....	63
Table 16.	Location of Missouri and Kansas Schools Where Beginning Agriculture Teachers Taught .....	63

Table 17. Years of High School FFA Membership of Beginning Missouri and Kansas Agriculture Teachers' .....	64
Table 18. Beginning Missouri and Kansas Agriculture Teachers' Prior 4-H Membership .....	64
Table 19. Level of Principal Support as Perceived by Beginning Agriculture Teachers in Missouri and Kansas .....	65
Table 20. Level of Teacher Preparation Program Quality as Perceived by Beginning Agriculture Teachers in Missouri and Kansas .....	67
Table 21. Eigenvalues of Modified Teachers' Sense of Efficacy Scale-Short Form for Beginning Agriculture Teachers in Missouri and Kansas .....	69
Table 22. Factor Loadings and Reliability Data for the Modified Version of the Teachers' Sense of Efficacy Scale-Short Form (TSES-SF) For Beginning Agriculture Teachers in Missouri and Kansas .....	69
Table 23. Teaching Self-Efficacy Constructs for Beginning Missouri and Kansas Agriculture Teachers .....	70
Table 24. Faculty Collective Efficacy Scores as Perceived by Beginning Agriculture Teachers in Missouri and Kansas .....	72
Table 25. Summary of MANOVA for Agricultural Education Teaching Experience of Beginning Agriculture Education Teachers in Missouri and Kansas .....	74
Table 26. Univariate Main Effect for Years Teaching Agricultural Education and Efficacy for Instructional Practices for Beginning Agriculture Education Teachers in Missouri and Kansas .....	74
Table 27. Tukey HSD Comparison for Efficacy for Instructional Practices Based Upon Years of Teaching Experience in Agricultural Education for Beginning Agriculture Teachers in Missouri and Kansas .....	75
Table 28. Correlations Among the Study Variables Teaching Efficacy, Perceived Collective Efficacy, Teacher Preparation Program Quality, and Principal Support .....	76
Table 29. Forward Multiple Regression Analysis of Selected Variables on Teaching Efficacy for Beginning Missouri and Kansas Agriculture Teachers.....	77

## LIST OF FIGURES

Figure 1. Bandura's triadic reciprocal determinism model. Adapted from (Pajares, 2002). .....	12
Figure 2. A simplified model of collective teacher efficacy. Adapted from: Goddard, R. D., Hoy, W. K., & Woolfolk Hoy, A. (2000). Collective teacher efficacy: Its meaning, measure, and impact on student achievement, <i>American Educational Research Journal</i> , 37(2), p. 479-507. ....	32
Figure 3. Factors that may contribute to the variability of beginning teacher self-efficacy. ....	41

## ABSTRACT

Teacher efficacy studies in agricultural education have primarily focused on documenting the perceived teaching efficacy of agriculture teachers. A limited number of studies have focused upon the factors that may help shape those efficacy beliefs. Therefore, the primary purpose of this study was to investigate the factors that may contribute to the teaching efficacy beliefs of beginning agriculture education teachers. These factors included perceived collective efficacy, perceived principal support, and perceived teacher preparation program quality. The population for this study included all agriculture teachers in Missouri and Kansas ( $N=213$ ) who had not completed more than five years teaching agricultural education at the conclusion of the 2012 – 2013 academic year. The instruments used in this study included a modified version the *Teachers' Sense of Efficacy Scale – Short Form*, the *Principal Behavior Scale*, the *Collective Efficacy Scale – Short Form*, and the *Teacher Preparation Scale*. Multiple regression analysis revealed that two factors, perceived collective efficacy and perceived teacher preparation program quality, accounted for 34% of the variance, indicating other factors beyond the scope of this study affect the teaching efficacy beliefs of beginning agriculture teachers. It is recommended that future research be conducted regarding the status of the perceived collective efficacy of the agricultural education profession. Recommendations and plans to develop new and existing programs to increase the collective efficacy of individual schools and the agricultural education profession are discussed. It is further recommended that refinement of the Teachers' Sense of Efficacy Scale be conducted to develop an instrument better suited to address the various roles and responsibilities of agricultural education teachers.

# **CHAPTER 1: INTRODUCTION**

## **Background of the Study**

The study of teacher efficacy has recently been added to the list of topics researched by agricultural education scholars (Knobloch, 2002). It has been noted teachers who are more efficacious about their teaching will explore new teaching ideas and methods more readily thus, translating to higher student achievement (Allinder, 1995). Furthermore, it has been concluded that teachers who are more efficacious about their teaching are less likely to pursue careers in other fields (Burley, Hall, Villeme, & Brockmeier, 1991). With teacher attrition rates continuing to climb (Marvel, Lyter, Peltola, Strizek, & Morton, 2006), the study of the factors contributing to teacher efficacy is central to those who aim to increase retention rates by providing professional support for beginning teachers.

The American Association for Agricultural Education includes teacher retention as a priority that must be addressed. Priority area three of the National Research Agenda for the American Association for Agricultural Education states “. . . that adequate numbers of well-prepared, highly effective agricultural educators . . . be made available to meet current and future needs ” (Doerfert, 2011, p. 24). These needs will be met by “. . . developing the models, strategies, and tactics that best prepare, promote, and retain new professionals” (Doerfert, 2011, p. 9). Since Burley, Hall, Villeme, and Brockmeier (1991) indicated that teachers who are more efficacious about their teaching are more likely to remain in the profession, the continued study of the factors that contribute to teachers’ sense of efficacy is essential to developing the strategies that Doerfert suggested are needed to retain professionals in the field.

However, retaining teachers may be easier said than done. Teacher retention and attrition issues in agricultural education have been well documented for nearly 50 years. Halford (1998)

indicated that nearly 30% of beginning teachers leave the profession with their first five years. By year seven, nearly half of all beginning teachers have left the profession (Marso & Pigge, 1997; Wilkinson, 1994). This statistic is even more extreme for those teachers who are employed in districts with higher levels of student poverty. Fifty percent of these beginning teachers leave by year five (Zimpher & Grossman, 1992).

Agricultural education may be considered a cannibalistic profession and has been described as one that “. . . eats its young” (Halford, 1998, p. 38). To say the least, an agricultural education teacher’s first year is challenging (Burris & Keller, 2008; Talbert, Camp, & Heath-Camp, 1994). To better understand the phenomena that result in challenges facing first year teachers, a plethora of research has been conducted to identify those issues facing beginning teachers. Issues related to control, student respect, and student success were identified as issues that led to stress and dissatisfaction of beginning teachers (Joerger & Boettcher, 2000). Beginning agriculture teachers are also saddled with the added responsibilities, often by themselves, of advising the local FFA chapter, advising student Supervised Agricultural Experience (SAE) programs, advisory committees, and program planning (Swafford & Friedel, 2010).

So, why are beginning teachers leaving? Could it be that they are poorly prepared to teach? Not necessarily. In fact, Henke, Chen, and Geis (2000) reported the attrition rate of beginning teachers who completed a student teaching experience as part of their preparation program is nearly 15% lower than the attrition rate for those teachers who did not. Poor salaries for teachers would appear, to an outside observer, as a primary reason for beginning departure. However, according to Ingersoll and Smith (2003), the main reasons in addition to poor salaries that explain why novice teachers depart early include difficult working conditions, lack of

administrator support, lack of teacher involvement in decision making, and poorly motivated students. Darling-Hammond (1997) included student discipline problems and lack of teacher recognition from administration as factors leading to early departure of beginning teachers from the profession. In addition to the prior issues, large workloads have also been noted as a factor contributing to teachers leaving the field (Marvel, Lyter, Peltola, Strizek, & Morton, 2006). The sink or swim method of teacher induction is obviously not working, especially given the fact that beginning teachers are often assigned the most difficult-to-teach students, given the greatest number of preparations and extracurricular duties, and teach in the most disadvantaged schools (National Commission on Teaching and America's Future, 1996).

Some have concluded that job satisfaction may contribute to teachers' decision to leave (Berns, 1990; Grady & Burnett, 1985). As early as 1959, Herzberg identified dissatisfiers of work. These dissatisfiers included company policy and administration, technical supervision, salary, supervision of interpersonal relations, and working conditions. Sergiovanni (1971) took Herzberg's framework and found that it also applied to teachers. Sergiovanni noted dissatisfiers to teachers included interpersonal relations with students, fellow teachers and administrators, and personal life issues. Increased focus on assessment and accountability and poor facilities have also been found to be issues that deter some teachers from continuing in the profession (Buckley, Schneider, & Shang, 2005; Darling-Hammond & Sykes, 2003).

Specifically regarding agricultural education, scholars have long investigated the factors that have contributed to the trends in teacher attrition. However, it should be noted that recent research regarding this phenomenon is limited. Wallace (1967) found three overriding factors that influenced teachers' decisions to leave teaching. These factors included limited opportunity for advancement, inadequate teaching salary, and extra-curricular activities. Mattox (1974)

concluded that the issues that contributed to the decisions of teachers could be consolidated into three categories. These categories included environmental, professional, and sociological. Lack of advancement, salary, evening responsibilities, long hours, state reports, discipline, and poor chances of specialization were found by Froehlich (1966) to be factors influencing attrition. Hoerner (1966) added advancement opportunities, community factors, interpersonal problems, and failing to adjust to the teaching assignment to Froehlich's findings.

In addition to the previous studies, Ruth (1965) and Forrest (1972) found the lack of time for a family life and higher salaries in other areas as retention issues in agricultural education. Knight (1977) added to this list by concluding that long range occupational goals of teachers were something different than teaching agriculture. Cole (1984) found concerns for time, money, and classroom control were issues that influenced agricultural education teachers to leave teaching. Most recently, Walker (2002) identified new factors that contributed to the attrition issue in agricultural education. He added lack of administrative support, spousal job relocation, raising children, and family health issues to the already large list of factors that have caused problems for agricultural education teachers.

Yet, in spite of the doomsday documentation of skyrocketing teacher attrition statistics and the "walked up hill to and from school every day" type challenges faced by beginning teachers, there are those who remain. Why? Several researchers have indicated that beginning teachers who are more efficacious about their teaching and teaching in general tend to remain in the profession longer than their less efficacious contemporaries (Burley et al., 1991; Glickman & Tamashiro, 1982). Teacher's sense of efficacy, which is defined as "teacher's judgment of his or her capabilities to bring about desired outcomes of student engagement and learning, even among those students who may be difficult or unmotivated" (Tschannen-Moran & Woolfolk

Hoy, 2001, p. 783), has been linked to teacher commitment to the profession (Coadarcie, 1992; Evans & Tribble, 1986; Knobloch & Whittington, 2003), teachers' persistence in the teaching field (Glickman & Tamashiro, 1982), and to the level of stress experienced during teaching (Smylie, 1988). It has been suggested (Bandura, 1997) that people who are efficacious tend to show more effort and persistence when faced with difficult tasks. Teachers with a higher sense of teaching efficacy tend to have higher expectations for students (Gibson & Dembo, 1984), which has led to teaching efficacy being positively linked to student achievement (Anderson, Greene, & Lowen, 1988; Ashton & Webb, 1986).

The study of teacher efficacy can trace its origins back to the mid-1970s with a study conducted by the RAND Corporation that examined teacher characteristics and student learning (Armor et al., 1976). Prior research in teacher efficacy can be collapsed into three categories. These categories include research on the development of a conceptual understanding of teacher efficacy (Gibson & Dembo, 1984; Guskey & Passero, 1992; Rose & Medway, 1981; Tschannen-Moran, Woolfolk Hoy, & Hoy, 1998), research focused on how to understand other relationships or outcomes in teaching situations through the lens of efficacy (Allinder, 1995; Meijer & Foster, 1988; Midgley, Feldlaufer, & Eccles, 1989), and identification of factors influencing teachers' sense of efficacy (Capa, 2005).

The most recent research about teacher efficacy has been grounded in Bandura's (1977) social cognitive theory. Social cognitive theory explained human functioning to include factors other than external stimuli. The factors that affect human action included cognitive, vicarious, self-regulatory, and self-reflective processes (Bandura, 1986). Bandura (1986) argued that people are not reactive organisms that are shaped and motivated by only environmental forces, but, rather cognitive individuals that are self-organizing, proactive, self-reflecting, and self-

regulating. Simply, humans' actions are shaped by the inter-relationship of personal, behavioral, and environmental influences (Pajares, 2002).

How people interpret the results of their own behavior changes their environments and the personal characteristics they possess which, in turn, alters future behavior (Pajares, 2002). This relationship is the foundation of Bandura's (1986) conception of reciprocal determination. Reciprocal determination is the view that (a) personal factors (in the form of cognition, affect, and biological events), (b) behavior, and (c) environmental influences create an interface that result in a triadic reciprocity (Bandura, 1986).

"Environments and social systems influence human behavior through psychological mechanisms of the self-system." (Pajares, 2002, p. 2) Therefore, economic conditions, workplace environment, and teaching responsibilities do not affect human behavior directly. Instead these environmental states affect behavior to the degree that they influence people's aspirations, personal standards, emotional states, and self-efficacy beliefs (Pajares, 2002). Personal factors including expectations, beliefs, goals, and intentions are included in social cognitive theory as, according to Bandura (1989) "...what people think, believe, and feel, affects how they behave" (p. 3). Therefore, if an agriculture teacher exhibits a positive attitude toward experimentation, he or she may alter their behavior to devote more time teaching the scientific method, for example, and be more likely to require students to complete a research based project.

According to social cognitive theory, individuals are agents engaged in their own development and can make things happen by their actions (Pajares, 2002). Furthermore, (Pajares) individuals possess self-beliefs that provide them the ability to control their thoughts, feelings, and actions. Therefore, people are seen as products, but in addition, creators of their own environments (Pajares).

## **Statement of the Problem**

Several teacher efficacy studies have been conducted by agricultural education researchers in the hopes of retaining teachers in the profession. A synthesis of these findings notes that agricultural education teachers who are more efficacious about their teaching will be more motivated, be persistent in challenging situations, and may remain longer in the profession than their less efficacious contemporaries (Knobloch & Whittington, 2002). These studies have led to solidifying factors that may affect teacher efficacy. These factors include teacher preparation programs (Whittington, McConnell, & Knobloch, 2006), and teacher support within the organization (Swan, Wolf, & Cano, 2011). These factors were also identified by Capa (2005) as explaining a significant portion of variation in first-year teachers' sense of efficacy in Ohio. However, this researcher suggested that collective efficacy be included in a future model to better describe the factors that influence beginning teacher efficacy.

Perceived collective efficacy refers to how a group views its shared capabilities to perform given tasks (Bandura, 1997; Goddard, Hoy, & Woolfolk Hoy, 2000). Skaalvik and Skaalvik (2007) argued "high collective self-efficacy leads to challenging goals and persistence in teachers efforts to meet those goals" (p. 621). These researchers later argued that "such a cultural context promotes student engagement and achievement, which again enhance individual teachers' sense of self-efficacy" (p. 621).

The volume of teacher efficacy research in agricultural education has grown quickly during the past ten years. However, the inclusion of collective efficacy in these studies in agricultural education is limited. Efficacy researchers will agree collective efficacy is an important factor when considering the elements that influence the perceived teaching efficacy of teachers. However, it is not the sole mitigating issue. As researchers continue to investigate the

factors influencing teaching efficacy the inclusion of perceived collective efficacy along with perceptions of teacher preparation programs, and institutional support for the teachers is warranted.

### **Purpose and Research Questions**

The primary purpose of this study was to identify the perceived level of teaching efficacy of first-year secondary agriculture teachers in Missouri and Kansas and to investigate factors that may explain variation among levels of first-year teachers' sense of teaching efficacy. Teaching efficacy factors include support within the organization (principal), the teacher preparation program quality, and perceived collective efficacy of the organization.

The research objectives for the study are:

1. What are the personal and demographic characteristics of beginning agriculture teachers in Missouri and Kansas during the 2012-2013 academic year? The selected characteristics were:
  - a. age,
  - b. gender,
  - c. ethnicity,
  - d. type of certification,
  - e. school size,
  - f. school setting, and
  - g. prior FFA or 4-H involvement.
2. What are the selected professional characteristics of beginning agriculture teachers? The selected characteristics were:
  - a. perceived teaching efficacy,

- b. perceived teacher preparation program quality,
  - c. perceived principal support, and
  - d. perceived collective efficacy.
3. How do the selected professional characteristics of beginning agriculture teachers compare by the demographic variables of agricultural education teaching experience, gender, teacher certification status, and association with an induction program? The variables used in this analysis were:
- a. perceived teaching efficacy,
  - b. perceived teacher preparation program quality,
  - c. perceived principal support, and
  - d. perceived collective efficacy.
4. What relationships exist among the agriculture teachers' perceived teaching efficacy, perceived collective efficacy, perceived preservice teacher education program quality, and perceived principal support?
5. Do perceived teacher preparation program quality, perceived principal support, and perceived collective efficacy explain a significant proportion of the variance of beginning agricultural education teachers' perceived teaching efficacy?

### **Significance of the Study**

Several studies in agricultural education have focused on teaching efficacy. More specifically, several studies have focused on beginning teachers and how teaching efficacy may influence teaching commitment with regards to retention. However, these researchers have sought to describe the efficacy beliefs of the teachers in the studies. Few studies have sought to develop a model that addresses the factors that make the most significant impact on teacher

efficacy. This study seeks to build upon the prior research of Capa, (2005) which identified factors affecting teacher efficacy, by including collective efficacy which, Skaalvik and Skaalvik (2007) indicated had an important influence on teaching efficacy.

The findings of this study may be helpful for a wide audience including teacher preparation program faculty, preservice and inservice teachers, and educational administrators. These findings may be used by administrators wishing to create a more supportive culture within a school which could cultivate increased teacher efficacy beliefs leading to student success. Teacher preparation program faculty may be able to use findings from this research to better prepare novice teachers for the challenges they will face early in their careers. Ultimately, induction program administrators could use data from this research to continue to improve the quality induction programs already in use to increase the satisfaction and retention of beginning agriculture teachers.

### **Definition of Terms**

1. Beginning teacher – A certified teacher who has not completed five years teaching agricultural education.
2. Teaching contract – A signed, legal document between a teacher and a respective school district which outlines salary, benefits, and days or months of employment.
3. Traditionally certified teacher – An agriculture teacher certified or provisionally certified to teach by their state education agency and who completed a teacher education program that included student teaching experience in agricultural education.
4. Alternatively certified teacher – An agriculture teacher who did not complete a traditional teacher certification program but was certified to teach by their state

education agency. In alternative certification programs, an internship or student teaching experience may or may not be required; students are often required to have a bachelor's degree in agriculture prior to being admitted to the program; and students may take undergraduate and/or graduate level courses as prescribed by state law, the state department of education, or the university teacher education program. The alternate certification program may result in the student also earning the master's degree.

## CHAPTER 2: REVIEW OF THE LITERATURE

### Introduction

This chapter contains a discussion of research previously conducted regarding the factors that contribute to teachers' sense of efficacy including teacher preparation program quality, organizational support for the teacher, teaching tasks and responsibilities, and collective efficacy. An overview of Bandura's (1986) Social Cognitive Theory will be included as it serves as the foundation of teaching efficacy. The measurement of teaching efficacy will be addressed as well.

### Social Cognitive Theory

Prior to Bandura's (1986) social cognitive theory, behaviorists concluded that human behavior was shaped by either environmental influences or by individual nature. Causation of human behavior as explained by Bandura's (1986) social cognitive model is a triadic reciprocal interaction between personal factors, behavior, and environmental factors. Therefore, human behavior is determined by the bidirectional interaction of these factors. However, the influence of each factor on one another may not be equal (Bandura, 1989). One factor may be stronger or weaker than the others and may not occur simultaneously (Bandura, 1989, See Figure 1).

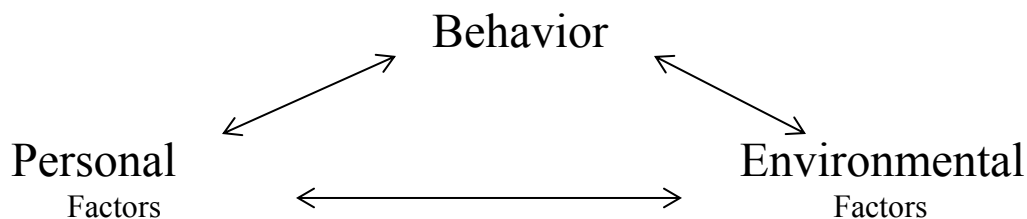


Figure 1. Bandura's triadic reciprocal determinism model. Adapted from (Pajares, 2002).

Bandura's (1986) social cognitive theory is rooted in the belief that human action is a result of a variety of influences, in addition to environmental factors only (Pajares, 2002).

Behaviorists would argue that inner thoughts or processes transmit behavior, rather than cause it,

and therefore, do not warrant investigation (Pajares, 2002). Conversely, Bandura argued that people make sense of their psychological world through introspection. However, behaviors are influenced by environmental factors but, it is vital that people use cognitive processes to determine their behavior based upon those environmental factors (Bandura, 1986). To substantiate the point, James (1981) argued that “. . . introspective observation is what we have to rely on first and foremost and always” (p. 185). Bandura (1986) added, “. . . a theory that denies that thoughts can regulate actions does not lend itself readily to the explanation of complex human behavior” (p. 15).

### **Personal and Behavior Interaction**

The interaction between thought, affect, and action is the focus of the personal – behavior reciprocal relationship (Bandura, 1989). Bandura noted intentions, goals, beliefs, and expectations shape and guide human behavior. Therefore, people behave based upon how they think, feel, and believe (Bandura, 1986). The personal factor also includes the biological properties and characteristics of the organism (Bandura, 1989). These physical structures and neural and sensory systems affect behavior and restrict or restrain physical or mental capacity (Bandura, 1989). Therefore, according to Greenough, Black, and Wallace (1987), behavioral experiences can modify sensory systems and brain structures.

### **Environmental and Personal Interaction**

The environmental – personal reciprocal causation component is focused on the relationship between environmental influences and personal attributes. Environmental influences including instruction, modeling, and social persuasion develop and further modify human expectations, beliefs, emotional states, and cognitive abilities (Bandura, 1986). Conversely, personal characteristics such as age, size, race, gender, and general appearance also induce reactions from one's social environment (Lerner, 1982). These reactions may be in stark

contrast those reactions elicited based upon personal comments or actions (Lerner, 1982). People also influence different social behaviors based upon social roles and status (Bandura, 1989). For example, teachers who have a reputation as strict will elicit different social behaviors from their students than those teachers who are considered timid or weak. Therefore, “. . . by their social status and observable characteristics, people can affect their social environment before they say or do anything” (Bandura, 1989, p. 4).

### **Behavior and Environmental Interaction**

The behavior – environmental interaction is centered on the relationship between human behavior and the environment. Human behavior is a catalyst that influences one's social environment which, in turn, alters human behavior as result of environmental change (Bandura, 1989). However, the facets of one's environment do not act as manipulators until they are activated by appropriate behaviors (Bandura, 1989). For example, teachers do not scold students unless they misbehave. Therefore, the concept of the potential environment that becomes the actual environment depends upon one's behavior (Bandura, 1989).

Bandura (1989) noted because behavior and environmental circumstances influence bi-directionally, people are both producers and products of their environment. Humans “affect the nature of their experienced environment through selection and creation of situations” (Bandura, 1989, p. 4). People tend to select activities in which to participate and others with whom to associate based upon preferences and competencies influenced by prior environmental influences (Bandura, 1989). Since people create and select their environments, Raush (1965) noted, aggressive people create hostile environments and friendly people generate atmospheres of congeniality.

Through the context of an agriculture teacher, the concept of triadic reciprocity can be demonstrated. Often, first-year teachers begin the school year as authoritative and

unapproachable, in order to create a controlled learning environment. This behavior is the result of an apprehensive attitude (personal factor) toward beginning ones career and losing classroom control. The beginning teachers intend to dictate the behavior of the students to create a controlled environment conducive to learning. Eventually, according to Bandura (1986) the subdued behavior of the students will create a new, more managed environment, which will influence the teacher to modify his or her stern attitude and ultimately, the teacher will display a less authoritative behavior toward the students.

### **Symbolizing and Vicarious Capabilities**

Social cognitive theory maintains that through cognitive processes external influences affect behavior (Bandura, 1989). However, it is also suggested, symbols serves as a vehicle for thought (Bandura, 1989). Humans have the ability to give meaning and form to their experiences by forming visual or verbal symbols (Bandura, 1989). The capacity to form symbols gives humans the opportunity to encode and store information that may be used to guide future behavior (Bandura, 1989). Using symbols gives humans the ability to solve problems and engage in foresight (Bandura, 1989). With the use of foresight one can evaluate the consequences of a behavior before actually performing the behavior (Bandura, 1989).

The ability to model observed behavior can be attributed to one's symbolizing capability (Bandura, 1989). The primary role of modeling is to accelerate mastery of a concept or behavior by providing the learner with a model to imitate (Inman, n.d.). “. . . Most human behavior is learned observationally through modeling; from observing others one forms an idea of how new behaviors are performed, and on later occasions this coded information serves as a guide for action” (Bandura, 1977, p. 22). However, observing models do not ensure that learning or the ability to perform the behaviors occurs (Schunk, 2000). But, nevertheless, observing models is valuable. Inman noted models are also informative and motivational by providing information

about possible consequences of behavior and affecting the observers' motivation to act.

Modeling is especially popular within teacher education programs. By modeling expert teachers, preservice teachers can further develop their teaching skills and parlay those skills into a successful career.

New behavior patterns, judgments, cognitive competencies, generative rules for creating new forms of behavior can be learned from observing models (Bandura, 1989). Observational learning is comprised of four subcomponents. The first subcomponent refers to attention processes. Attention processes dictate what is viewed by the observer in the wealth of modeling influences and what information is gleaned from those observations (Bandura, 1989).

According to Bandura (2001), if observed events are not remembered, they are of little influence. The second sub-function governing observational learning refers to retention. Retention involves the process by which information involving modeled events is transformed and restructured in order to generate new patterns of behavior (Bandura, 2001). "Retention is greatly aided by symbolic transformations of modeled information into memory codes and cognitive rehearsal of the coded information" (Bandura, 2001, p. 272). Preconceptions and affective states bias the influences of these representational activities, and thus, dictate how the observed behaviors are recalled and used (Bandura, 2001).

Production processes, specifically modeling, the third subcomponent of observational learning, centers on the process of translating symbolic conceptions into actions (Bandura, 2001). These behaviors are achieved through a conception-matching process (Bandura, 2001), by which the new behaviors are constructed and executed and then cognitively compared to the original observed behavior. Future behavior is modified based upon reflection of the conceptual model of behavior (Bandura, 2001). However, the act of modeling is not simply modeling

observed behavior (Bandura, 1989). According to Rosenthal and Zimmerman (1978), by modeling, people acquire judgmental standards, linguistic rules, styles of inquiry, information-processing skills, and standards of self-evaluation.

The fourth subcomponent of observational learning focuses on motivation. New behavior acquisition and behavior performance are separated in social cognitive theory because people do not perform everything they learn (Bandura, 2001). “Incentive motivators” (Bandura, 2001, p. 274) influence greatly the performance of observed behaviors. These motivators can be direct, vicarious, or self-produced (Bandura, 2001). If behaviors are not met with punishment or are unrewarded, they are less likely to exhibit modeled behavior (Bandura, 2001). Observing detriments or benefits of behaviors influence the performance of modeled behaviors similar to directly performing the modeled behaviors (Bandura, 2001). Personal conduct standards and observing the benefits and consequences of modeled behavior, serve as motivators or demotivators to performing prior modeled behavior (Bandura, 2001). Humans are more likely to perform activities that they find worthy, rather than those which are personally disapproved (Bandura, 2001).

### **Forethought Capability**

By anticipating possible consequences of their actions, humans, through the use of cognitive forethought, motivate or regulate future behavior (Bandura, 1989). This capability is rooted in symbolic activity. Current motivation and actions cannot be caused by future, unforeseen, events (Bandura, 1989). But, by being symbolized cognitively in the present, possible future events are “...converted into current motivators and regulators of behavior” (Bandura, 2001, p. 39). Foreseeable future events viewed as desirable are more likely to foster personally or socially approved behavior (Bandura, 1989). Through the use of self-regulatory

mechanisms, forethought is translated into incentives or action of future behavior (Bandura, 1989).

### **Self-Reflective Capability**

“If there is any characteristic that is distinctly human, it is the capability for reflective self-consciousness” (Bandura, 1989, p. 58). This enables humans to think about their own thought processes and analyze previous experiences (Bandura, 1989). People can learn about themselves and the environment around them by reflecting on their experiences (Bandura, 1989). Through self-reflective practices people can monitor their daily activities and ideas and analyze how well their thoughts served them (Bandura, 1989). Using these analyses people can conceive consequences of possible behavior, act on prior ideas, or alter ideas all together (Bandura, 1989).

### **Self-Regulatory Capability**

The practice of self-regulation ‘...refers to the monitoring, appraisal, and coping activities that translate 1) attitudes into intentions, 2) subjective norms into intentions, and 3) intentions into actions leading to goal attainment” (Bagozzi, 1992, p. 183). Bandura (1997) defined self-regulation more simply as “...goal setting, planning, and persistence” (p. 2). Humans are “self-reactors with a capacity for self-direction” (Bandura, 2001, p. 267). More simply, humans have the ability to react to their environment and change the direction of future behavior as a result of environmental change. The arrival of self-satisfaction from fulfilling goals and disapproval of substandard performances serve as motivators or regulators of future behavior (Bandura, 2001). Goals do not serve as the motivators of behavior, rather, motivation lies in the positive or negative self-reactions of one’s performances (Bandura, 2001).

Bandura (2001) noted most theories of self-regulation are based upon a system of negative feedback in which people attempt to reduce differences between self-perceived performance and adopted goals. However, Bandura noted this only explained half of the theory,

as humans are "...proactive, aspiring organisms" (p. 268). Bandura argued that self-regulation "...relies on discrepancy production as well as discrepancy reduction" (p. 268). Human behavior is guided by proactive control by goal setting and then organizing resources, skills, and effort to reach them. Those with a strong sense of efficacy will, after goals have been attained, set higher goals for themselves in an attempt to eliminate other discrepancies (Bandura, 2001). Therefore, "...self-regulation of motivation and action thus involves a dual control process of disequilibrating discrepancy production (proactive control) followed by equilibrating discrepancy reduction (reactive control)" (Bandura, 2001, p. 268).

Included in the theory of self-regulation is the concept of self-efficacy. Perceived self-efficacy refers to the beliefs one holds regarding the capabilities to perform actions at designated levels (Bandura, 1997). Efficacy judgments are "...concerned not with the number of skills you have, but with what you believe you can do with what you have under a variety of circumstances" (Bandura, 1997, p. 37). Self-efficacy beliefs

... influence the courses of action people choose to pursue, how much effort they put forth in given endeavors, how long they will persevere in the face of obstacles and failures, their resilience to adversity, whether their thought patterns are self-hindering or self-aiding, how much stress and depression they experience in coping with taxing environmental demands, and the level of accomplishments they realize. (Bandura, 1997, p. 3)

Self-efficacy beliefs are formed based upon four main sources of information: enactive mastery experiences, vicarious experiences, verbal persuasions, and physiological states (Bandura, 1997). Enactive mastery experiences produce "... stronger more generalized efficacy beliefs than do modes of influence relying solely on vicarious experiences, cognitive stimulations, or verbal instruction" (Bandura, 1997, p. 80). Therefore, people need opportunities to practice behaviors in order to master them (Knobloch, 2002). Consequently, Capa (2005) noted, "... as learners master skills, they tend to raise the expectation that they will be able to

master those skills further” (p. 20). Further, Bandura (1997) explained, as failure tends to lower self-efficacy, success tends to raise it.

Vicarious experiences (modeling) also influence efficacy beliefs (Capa, 2005).

Modeling can be delineated into four types: actual modeling, diversified modeling, symbolic modeling, and self-modeling (Knobloch, 2002). Actual modeling occurs when learners have an opportunity to evaluate and make quality judgments about their own performances (Knobloch, 2002). Diversified modeling refers to the opportunity of the observer to model behavior displayed by multiple competent models (Knobloch, 2002). This is akin to preservice teachers observing multiple teacher educators model various teaching styles while developing their own. Exposure to symbolic models who exhibit useful behavior can raise the observers’ beliefs in their own abilities (Bandura, 1997). The impact of symbolic modeling can be enhanced through the use of cognitive rehearsal (Bandura, 1997). Individuals who visualize themselves performing the behavior successfully strengthen their belief that they can perform the task (Bandura, 1997). Self-modeling has become another popular vicarious experience, especially in teacher education programs. In this scenario preservice teachers are videotaped while performing pre-determined teaching activities to ensure a successful performance (Knobloch, 2002). “Self-modeling by showing preservice and novice teachers edited videotapes of their own successful performances can build efficacy” (Knobloch, 2002, p. 55).

Verbal persuasion is the third source of modifying self-efficacy beliefs. Verbal persuasion refers to “others persuading a learner that he or she is capable of succeeding at a particular task” (Driscoll, 2000, p. 314). Although Bandura (1997) considers verbal persuasion a weak method of modifying efficacy beliefs, it was noted that efficacy can be maintained if a significant other expresses faith in one’s capabilities (Bandura, 1997). “Verbal persuasion that

leads people to try hard enough to succeed, builds efficacy when their self-beliefs are affirmed” (Knobloch, 2002, p. 56).

Physiological or emotional states may influence perceived self-efficacy about a specific behavior. Internal agitation is indicated by physiological states such as hyperventilating, sweating, tensing, trembling, nausea, and insomnia (Bandura, 1997). Experiencing negative physiological disruptions while performing past behaviors tend to increase anxiety toward those behaviors, and thus decreasing the likelihood of any future performance (Bandura, 1997).

### **Teacher Preparation Program Quality**

Simply stated, the role of a teacher preparation program is to ensure that its graduates attain the necessary knowledge to support student learning. The National Council for Accreditation of Teacher Education (NCATE) (2008) is an oversight organization that provides accreditation to teacher preparation programs across disciplines throughout the United States. As such, NCATE performs accreditation visits to teacher preparation programs on a routine basis to ensure that its research grounded standards are met. According to NCATE, new professional teachers who graduate from an accredited teacher preparation program should be able to 1) help all pre-kindergarten through twelfth grade (P-12) students learn; 2) teach to P-12 student standards set by specialized professional associations and the states; 3) explain instruction choices based on research-derived knowledge and best practice; 4) apply effective methods of teaching students who are at different developmental stages, have different learning styles, and come from diverse backgrounds; 5) reflect on practice and act on feedback; and 6) be able to integrate technology into instruction effectively (NCATE).

In addition to NCATE, the American Association for Agricultural Education (AAAE) developed and adopted the National Standards for Teacher Education in Agriculture (AAAE,

2001) to provide guidance to teacher preparation programs in agricultural education. Although the two entities differ slightly on the basic standards, the same general function of a teacher preparation program is implied. A summary of the standards of both the AAAE and NCATE can be found in Appendices A and B.

In order to meet the requirements and standards set forth by NCATE and AAAE departments of agricultural education differ slightly on organizational composition but, follow a similar model to prepare teachers. A substantial majority of agricultural education programs (81%) have a curriculum that allows for certification in four years, while eighteen percent (18%) of programs utilize a five-year certification course plan (Myers & Dyer, 2004). Those programs that follow a four-year course of study required an average of 130.5 semester hours of course work including 44.7 hours of general studies, 42.8 hours in technical agriculture courses and 35.8 hours in professional education coursework (Myers & Dyer, 2004). Programs following a five-year program required an average 138.7 semester hours which included 51.2 hours of general studies, 47.3 hours in technical agriculture, and 46.6 hours in professional education courses (Myers & Dyer).

In addition to traditional coursework, agricultural education programs also employed field experiences where preservice teachers were required to observe professional teachers over a pre-determined number of hours. The interaction between preservice teachers and secondary agricultural education students has been found to be highly influential (Zurch, 2000). These field experiences ranged from a low of 16 to a high of 200 hours, with an average of 60 hours (Myers & Dyer, 2004). The staple of preservice teacher education programs includes the student teaching experience. During this experience, a preservice teacher is paired with a cooperating professional teacher who provides guidance and support as the preservice teacher gradually

assumes the duties of the professional agriculture teacher for specific period of time. The length of the student teaching experience in agricultural education ranged from 10 to 24 weeks with an average of 12 weeks (Swortzel, 1999).

Research has been conducted with regards to preservice teacher education programs and teaching efficacy in agricultural education. A central focus of this prior research has included documenting the teaching efficacy of preservice teachers at various points during their student teaching experience. Several researchers noted that the teaching efficacy of preservice teachers completing a student teaching experience typically followed a pattern of diminished efficacy during the middle of the experience while experiencing efficacy gains at the conclusion of the experience (Harlin, Roberts, Briers, Mowen, & Edgar, 2007; Knobloch, 2006; Roberts, Harlin, & Briers, 2009). It should be noted that the domains of student engagement, instructional strategies, and classroom management as identified by Tschannen-Moran and Woolfolk Hoy (2001) were used as the basis of this research. These efficacy scores, Knobloch (2006) speculated, which was later corroborated by Wolf, Foster, and Birkenholz (2008), appeared inflated as a result of supportive environments.

Researchers agree that the preservice teacher education programs have an impact on beginning teachers' sense of teaching efficacy (Whittington, McConnell, & Knobloch, 2006). Ross, Cousins, and Gadalla (1996) noted that adequate preservice teacher preparation may influence teaching efficacy by reducing uncertainty about one's ability to perform teaching behaviors. Still more, Rubeck and Enochs (1991) found that university level coursework related to future teaching requirements predicted teaching efficacy. The feeling of being prepared to teach has been used by other researchers as an indicator, with at least preservice teachers, of teaching efficacy (Brookhart & Loadman, 1993). In a study of beginning teachers in New York,

Silvernail (1998) examined teachers' sense of preparedness into five factors including 1) promote student learning; 2) teach critical thinking and social development; 3) use technology; 4) understand learners; and 5) develop instructional leadership. In a statistically significant finding, it was found that traditionally certified teachers felt more adequately prepared to teach than their transcript-review certified teacher counterparts, who felt less than adequately prepared (Silvernail).

Preservice teachers who held more positive perceptions of their teacher-preparation program tended to be more efficacious after concluding their student teaching experience (Knobloch, 2006). Furthermore, Whittington, McConnell, and Knobloch (2006) found that sense of teaching efficacy was positively related to the student teaching experiences of preservice teachers. Participation in authentic teaching experiences during preservice teaching programs was reported to influence teaching efficacy of student teachers, as well (Knobloch, 2001).

Researchers have noted that teachers' perception of their preservice teacher preparation program was significantly related to their sense of efficacy about their teaching effectiveness (Darling-Hammond, Chung, & Felow, 2002; Raudenbush, Rowen, & Cheong, 1992). Furthermore, Ross (1992) found evidence that teachers' sense of efficacy increased when they had received learning opportunities that improved their teaching skills. Teachers who felt better prepared were more likely to believe they could reach all of their students, manage classroom problems, and teach all students to high levels (Darling-Hammond et al., 2002). "Those who felt underprepared were significantly more likely to feel uncertain about how to teach some of their students and more likely to believe that students' peers and home environments influence learning more than teachers do" (Darling-Hammond et al., 2002, p. 294). These same teachers

also indicated that they would less likely choose teaching again if given the choice and were more likely to leave teaching for another profession (Coladarci, 1992; Evans & Tribble, 1986).

### **Support within the Organization**

The support for beginning teachers within a school organization is a key element in assisting those teachers as they address the major job demands they encounter. A quality relationship with an effective principal "... may alleviate the influence of job demands (e.g. work overload, emotional and physical demands) on job strain" (Bakker & Demerouti, 2007, p. 316). This is supported, as teachers who report greater efficacy beliefs tend to do so when they receive more effective principal support (Tschannen-Moran & Woolfolk Hoy, 2001). As important as effective leadership and support is to a beginning teacher's efficacy, a lack of or ineffective support is just as damaging. Lack of administrative support has been linked to disengagement from work (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001).

Within the school setting, the effective principal is the individual who is responsible for fostering a supportive and productive atmosphere (Hoy, Tarter, & Wiskoski, 1992), for students, as well as teachers. Support and productivity often takes the form praise, feedback with constructive criticism, and a healthy school environment (Lewandowski, 2005). In support of this Uline, Miller, and Tschannen-Moran (1998) stated, "... teaching and learning takes place at the classroom level, whereas other levels of the organization are providing the conditions necessary for these activities to take place" (p. 463).

Principal support has been found to be a significant predictor of school effectiveness (Hoy, Tarter, & Wiskoskie, 1992), which has been linked to collective efficacy (Goddard & Goddard, 2001), which has, in turn, been linked to personal teaching efficacy and school administration satisfaction (Pajares, 2002a). Hoffman, Sabo, Bliss, and Hoy (1994) identified

trust in the principal as significant. Lewandowski (2005) noted, since trust is a part of organizational support, it is believed to influence teacher performance,” (p. 32).

Inadequate support from administrators has been cited as a frequent reason teachers gave for leaving the profession (Chester & Beaudin, 1996). Conversely, Kapadia, Coca, and Easton (2007) found new teachers’ experiences and planned retention were strongly related to school leadership. Devos, Dupriez, and Paquay (2012) documented the use of follow-up meetings with beginning teachers as significant supportive behavior by the school principal. These meetings were regularly scheduled to discuss how the beginning teachers were coping with work and provided the new teachers an opportunity to talk about difficulties, needs, and objectives. The principal was also given the chance to provide feedback based upon classroom observations. Devos et al. (2012) explained that these meetings are helpful as the principal can convey expectations, clarify evaluation criteria, and discuss strategies to overcome difficulties. With regard to teaching efficacy, the number of times the principal or other immediate supervisor observed the beginning teachers’ classroom performance during the first months of teaching, Chester and Beaudin (1996) found that perceived teaching efficacy was positively impacted.

Teacher involvement in school-wide decisions has also been linked to increased perceived teaching efficacy. Teachers that were allowed autonomy over their classrooms with appropriate support behind the scenes have been found to have greater general teaching efficacy (Tshannen-Moran, et al., 1998). Moore and Esselman (1992) found that teachers who believed they had influence on school-wide decisions tended to have stronger personal teaching efficacy than those who believed the decisions were simply dictated to them.

However, there is some evidence that supportive behavior of the principal does not affect teacher efficacy. Tschannen-Moran and Woolfolk Hoy (2007) found that beginning teachers did

not seem to base their self-efficacy beliefs on the support of their administrators. “Teachers form beliefs about their capability to impact student learning whether support from administrators is available or not” (Tschannen-Moran & Woolfolk Hoy, 2007, p. 954). They further argued that the two evaluation visits per year by the principal simply did not provide enough feedback to shape self-efficacy beliefs. In a study of preservice and beginning agriculture teachers, Knobloch (2002) noted that contrary to popular belief, principal support did not have a major influence on teacher efficacy. It should be noted, however, that due to the brevity of the study time frame, the beginning teachers participating in the study may not have had enough contact time with the principal or building administrator to adequately gauge the impact of the support provided.

### **Collective Efficacy**

At the organizational level, perceived collective efficacy represents the beliefs of group members concerning “the performance capability of a social system as a whole” (Bandura, 1997, p. 469). Goddard, Hoy, and Woolfolk Hoy (2004) took Bandura’s definition a step further and applied it to an educational setting by noting that “perceived collective efficacy refers to the judgment of the teachers in a school that the faculty as a whole can organize and execute the course of action required to have a positive effect on students” (p. 4). Perceptions of collective efficacy influence the behavior of individuals and the environment of collectives by providing expectations about the likelihood of success for various pursuits (Goddard & Goddard, 2001). To take the concept a step further, the influence of perceived collective efficacy of a school “may be especially pronounced for novice teachers as they are socialized into the teaching profession” (Tshannen-Moran, et al., 1998, p. 221).

## **Organizational Agency and Organizational Learning**

According to Cohen and Sproull (1996), it can be reasonably assumed that an organization can learn. As a collective whole, the organization learns based upon the cognitive activities of the individual learners within the organization. With this in mind, it is realistic to extend the theory of self-efficacy to organizations through collective efficacy. However, in order to do this, the basic assumptions of social cognitive theory must be applied to the organizational level (Goddard et al., 2000). Human agency, or the intentional pursuit of a course of action, is a basic tenet of social cognitive theory. Applied to schools, the corresponding concept is organizational agency. With this, schools may be viewed as agentive when considering the decisions schools make in pursuit of collectively agreed upon teaching and learning goals. “The purposive actions schools take as they strive to meet their goals thus reflect organizational intentionality, or agency (Goddard et al., 2000, p. 483).

In still another connection grounded in social cognitive theory, organizational functioning also depends on the knowledge, vicarious learning, self-reflection, and self-regulation of the individuals within the organization, in addition to the agency of the individuals. For example, when a school models a neighboring school’s curriculum reform to address declining test scores, the school is engaged in a self-regulatory process that is guided by the vicarious learning of its individual members. The previous example and others similar, solidify the relationship of collective efficacy and social cognitive theory, however, it must be recognized “that it is through individuals that organizations act” (Goddard et al., 2000, p. 484).

## **Sources of Collective Efficacy Information**

### ***Mastery Experiences***

Mastery experiences provide opportunities for organizations or schools to “learn” from actually participating in an event or activity. For example, schools have the opportunity to

reflect upon effective teaching methods upon receiving scores from standardized tests. These experiences are important for schools. As teachers experience successes and failures, so too, does the group. Success builds belief in the faculty's sense of collective efficacy, where failures weaken it (Goddard et al., 2000). If success, according to Goddard et al, (2000) is too frequent and easy, failure is likely to produce discouragement. Persistent effort through difficulties is vital to develop a resilient sense of collective efficacy. Organizations learn by experience if they are to succeed in reaching their goals (Huber, 1996).

### ***Vicarious Experiences***

Simply put, learning by watching or listening to others. Teachers simply do not rely upon their own experiences as the only source of information about their collective efficacy. They will listen about achievements and failures of their fellow teachers as well as stories from other schools. Since organizations learn by observing other organizations (Huber, 1996), it is obvious why professional development opportunities are provided to teachers to observe teachers in other schools implementing novel or effective teaching methods or theories.

### ***Social Persuasion***

Sometimes, strengthening a faculty's belief that they have the skills to achieve their educational goals is through the social persuasion. Professional development opportunities, speakers, workshops, and professional feedback about achievement can influence teachers. "The more cohesive the faculty, the more likely the group as a whole can be persuaded by sound argument (Goddard et al., 2000, p. 484). As powerful as social persuasion is, when the persuader is deemed credible or trustworthy (Bandura, 1986) it cannot work in isolation. Coupled with mastery or vicarious learning experiences, social persuasion can be a catalyst to encourage a faculty to give that last effort that leads to success (Goddard et al., 2000).

### ***Emotional Arousal***

Like people, organizations are affected by stress. Organizations that are efficacious can not only tolerate pressure and crises and continue to function but, as well, learn how to adapt and cope (Goddard, et al., 2000). Organizations less efficacious in their abilities, to cope and overcome, react in dysfunctional ways, which reinforce their basic outlooks of failure (Goddard et al., 2000). The affective state of an organization has tremendous influence on how challenges are interpreted. Less efficacious organizations may "... misinterpret stimuli, sometimes overreacting, underreacting, or not reacting at all" (Goddard et al., 2000, p. 485), thus, decreasing the likelihood that challenges will be managed or overcome.

### **Elements of Collective Efficacy**

The cognitive processing and interpretation of the information of provided by mastery experiences, vicarious experiences, social persuasion, and emotional arousal are central to the creation of collective efficacy. Goddard et al. (2000) proposed two elements in the development of collective teaching efficacy: analysis of the teaching task and assessment of teaching competence. It should be understood "... that perceptions of group capability to educate students result when teachers consider the level of difficulty of the teaching task (in relation) to their perceptions of group competence" (Goddard et al., p. 485).

### ***Analysis of the Teaching Task***

Analysis of the teaching task occurs when teachers assess what will be required, at both the individual and school levels, as they engage in teaching. At the school level, the analysis includes what challenges exist in order to be successful at a specific school. These challenges may include abilities and motivation of students, instructional material availability, community influences or pressures, and the physical facilities of the school (Goddard et al., 2000). At the

individual level this may include the given course or courses to be taught, extra duty responsibilities, and assessing student learning benchmarks.

### ***Assessment of Teaching Competence***

Teachers assess the teaching competence of the faculty as it relates to the teaching task of the faculty in their specific school (Goddard et al., 2000). Individual analysis of the teaching competence of the faculty produces inferences about the collective faculty's teaching skills, methods, training, and expertise (Goddard et al., 2000). "Judgments of teaching competence might also include positive faculty beliefs in the ability of all children in their school to succeed" (Goddard et al., 2000, p. 485).

The major influences on collective teacher efficacy are the analysis and interpretation of the four main sources of information, mastery experiences, vicarious experiences, social persuasion, and emotional arousal (Gist & Mitchell, 1992). Teachers analyze and interpret the knowledge they gain from those sources as it relates to the teaching task and competence of the faculty. Because the analysis of task and competence occur simultaneously, they interact with each other and are used to form a perceived collective efficacy by assessing whether the school has the capacities to succeed in teaching students (Goddard et al., 2000). This simplified model of collective teaching efficacy can be found in Figure 2.

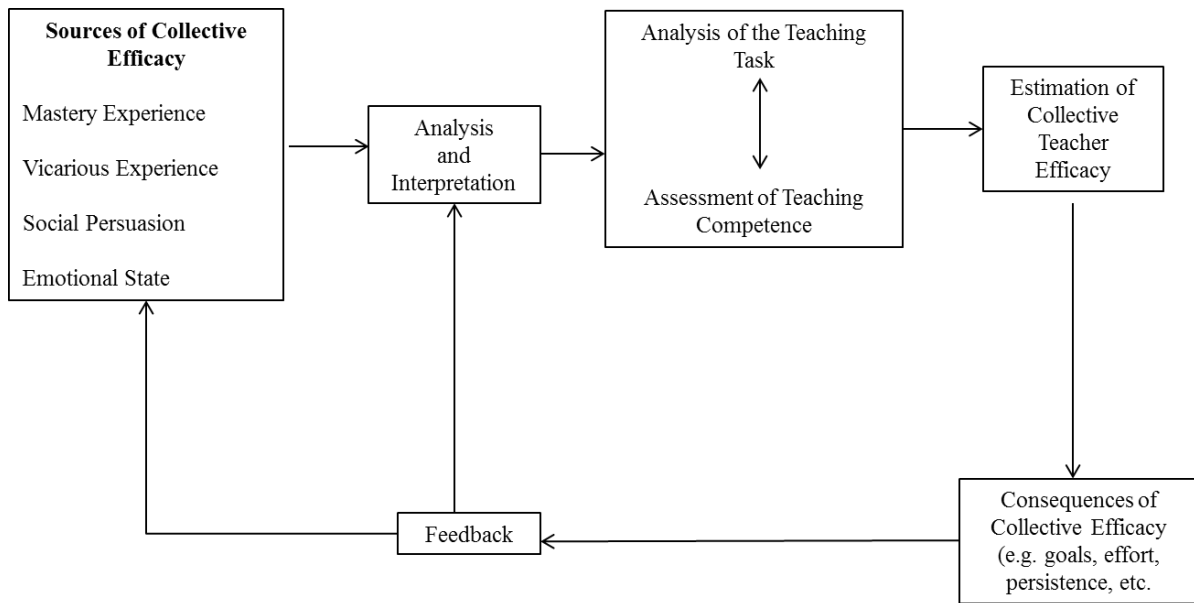


Figure 2. A simplified model of collective teacher efficacy. Adapted from: Goddard, R. D., Hoy, W. K., & Woolfolk Hoy, A. (2000). Collective teacher efficacy: Its meaning, measure, and impact on student achievement, *American Educational Research Journal*, 37(2), p. 479-507.

### **Relationship between Collective and Individual Teacher Efficacy**

Research has indicated that the perceived collective efficacy of a school may have significant influence on the perceived teaching efficacy of its faculty (Goddard, Hoy, & Woolfolk Hoy, 2004). However, teachers tend to work almost exclusively in their own classrooms, and from an outside perspective, may appear to be oblivious to external school climatic forces. However, Bandura (1997) noted,

People working independently within a group structure do not function as social isolates totally immune to the influence of those around them ... the resources, impediments, and opportunities provided by a given system partly determine how efficacious individuals can be, even though their work may be only loosely coupled. (p. 469).

Therefore, as Bandura noted, it is within acceptable reason to expect a positive relationship between a teacher's sense of efficacy and the perceived collective efficacy of a school.

Coleman's (1985, 1987, 1990) social theory of normative influence help's shed light on the relationship between perceived collective efficacy and individual teacher efficacy. Coleman (1985) suggested that social norms, within an organization, develop in order for members within

the organization to influence the actions of others in the group. This influence is especially important when the consequences of those actions have an impact on the collective whole. For example, "... in a school characterized by a high level of perceived collective efficacy, a teacher whose actions are inconsistent with group expectations for academic achievement is likely to be sanctioned by the faculty" (Goddard et al., 2004, p. 9). To further support this phenomenon, Sklra and Goddard (2002), in a study of collective efficacy beliefs held by teachers working with minority students, documented a focus group interview of a faculty member,

We're told it so many times, it's just a part of life, we know that to work here you have to do whatever it takes to get [the students to succeed]. To reach our goal. And, you know, I believe there are enough teachers who have bought into that belief to where if you hear a teacher that may not be quite there, I believe that by the time they hang around, either they will be there, or they'll be out the door... (p. 17-18).

In an attempt to quantify the relationship between individual teacher and collective efficacy, Goddard and Goddard (2001) conducted a multilevel analysis of individual and collective efficacy beliefs of teachers in a large Midwestern school district. These researchers hypothesized that collective efficacy was positively related to individual teachers sense of efficacy. In addition, school socioeconomic status, minority population, and school size were employed as covariate measures. It was found that perceived collective efficacy was the strongest predictor of variation among schools in teachers' sense of efficacy. A one standard deviation increase in perceived collective efficacy was associated with a .191 standard deviation increase in teachers' sense of efficacy before accounting for the effects of socioeconomic status and prior math achievement of students. After adjusting for socioeconomic status and prior achievement, the increase in teachers' sense of efficacy was .25 standard deviations with a one standard deviation in perceived collective efficacy. It was further reported that as a stand-alone predictor of individual teacher efficacy, collective efficacy accounted for nearly 75% of the

between-school variation in teachers' sense of efficacy. When compared to the impact of commonly employed contextual controls "... perceived collective efficacy is the aspect of school cultural context most strongly related to teachers' sense of personal efficacy" (Goddard et al., 2004, p. 9).

### **Relationships Between Support With the Organization, and School Size and Setting**

Louis, Marks, and Kruse (1996) found that schools that were smaller in size and had more staff directly involved in teaching and learning were more likely able to support teacher learning communities more effectively than larger, more complex schools. Skelly (1988) noted that rural schools tended to foster a family atmosphere among the staff, which created a more cooperative and supportive teaching environment. However, rural schools are not perfect. Often, rural schools simply do not have the financial resources needed to provide adequate support for teachers (Rentner et al, 2006).

Although large schools may be described as bureaucratic and impersonal (Weiner, 2003), there are some advantages. Schools located in affluent communities tend to have few financial shortcomings that those in poverty stricken or isolated rural communities. With fewer financial restraints more funds may be allocated to supporting teachers. Specifically for beginning teachers, some wealthier schools have full-time staff members that are charged with providing support and induction services for new teachers (Stansbury & Zimmerman, 2000). Larger schools have a larger experienced teacher pool from which to recruit and train mentors to assist beginning teachers (Stansbury & Zimmerman, 2000).

## **Relationships Between Teachers Tasks and Responsibilities, and School Size and Setting**

Ultimately, the teaching tasks and responsibilities of teachers in rural, suburban, and urban schools are very similar. However, due to the size and setting of the schools, the general differences between rural, suburban, and urban schools can be striking. Because of the challenges rural schools face regarding resources, teacher quality and supply, and discipline (Knobloch & Woolfolk Hoy, 2008), their job responsibilities, as compared to suburban schools teachers, may appear more difficult as one investigates deeper. Teachers in rural schools still have the same basic responsibilities as suburban teachers, yet must complete their tasks and fulfill their responsibilities in, often times, old decrepit facilities located in poverty stricken areas earning lower salaries with fewer resources (Knobloch & Woolfolk Hoy, 2008). To compound the issue, because of the lack of resources, these teachers often deal with frequent administrator turnover, which creates altogether different challenges (Knobloch & Woolfolk Hoy, 2008).

However, the issues that make the tasks and responsibilities of rural teachers more challenging may actually assist those teachers in overcoming them. Typically, rural schools tend to have a lower student-to-teacher ratio than larger schools (Beckner, 1996). Additionally, the closer teacher/student relationship (Knobloch & Woolfolk Hoy, 2008), and the support from the local community, are often perceived as positive for rural schools (Lomotey & Swanson, 1989). Closer personal relationships between the teachers that tend to build a more familial atmosphere within the school create a more cooperative, accepting, and supportive teaching environment (Skelly, 1988).

The challenges that add to the tasks and responsibilities of urban teachers are a different story. Teachers in urban schools must complete their tasks and fulfill their responsibilities under a cloud of red tape within a highly bureaucratic framework (Weiner, 2003). Because of

overcrowding (Michie, 2005), large class sizes, discipline issues, and insufficient time for personal interaction, strong student-teacher relationships were not common (Corcoran, Walker, & White, 1988). To add insult-to-injury, urban teachers often work in poor neighborhoods (Lomotey & Swanson, 1989) where drug use, violence, and gang activity is the norm, rather than the exception (Dryfoos, 1998).

### **Relationships Between Collective Efficacy, and School Size and Setting**

Few studies exist that specifically attempt to seek out the relationship between perceived collective efficacy and school size and setting. In a study of the school contextual influences on student teachers Knobloch and Woolfolk Hoy (2008) found that school setting, rural, suburban, and urban, in fact, did have an influence on collective efficacy. These researchers found that the collective efficacy of student teachers was highest in suburban schools, followed by rural, and then urban. The perceived collective efficacy of the faculty, as perceived by the student teachers, in the student teaching centers was significantly lower in urban settings when compared to rural and suburban. Due to the variety and volume of challenges facing teachers in urban schools it would "... almost certainly impact the faculty's perceptions of the group's capabilities to bring about student achievement" (Knobloch & Woolfolk Hoy, 2008, p. 175). Unequal access to quality teaching examples may also be a contributing factor influencing the student teachers' views on collective efficacy. Darling-Hammond (1995) argued that in large urban schools where teaching shortages are commonplace, many students are taught by "a parade of short-term substitute teachers, inexperienced teachers without support, and underqualified teachers who know neither their subject matter nor effective teaching methods" (p. 471). Since the student teachers may have observed more inexperienced teachers, their estimation of the teaching

competence of the faculty may have been lower, which would result in lower perceived collective teacher efficacy views.

As compelling an argument for school setting Knobloch and Woolfolk Hoy (2008) make, other scholars would argue that it is not so much the location of the school, but, rather the socioeconomic status of the school that influences collective efficacy (Adams & Forsyth, 2006; Bandura, 1993; Goddard, Hoy, & LoGerfo, 2003). Goddard, LoGerfo, and Hoy (2004) found that schools with students from wealthier families had higher collective teacher efficacy. Goddard, LoGerfo, and Hoy noted that teachers tended to be better prepared to serve students who were from more affluent communities, and, hence, teachers who felt better prepared, tend to feel more efficacious about their teaching. But, since efficacy is context specific, those same teachers who feel prepared to work with wealthier students, may feel very inefficacious if found in a situation dominated by poorer students (Goddard, LoGerfo, & Hoy, 2004) .

### **Relationships Between Teacher Efficacy and Selected Variables**

Extensive research has been conducted that has investigated the various aspects of teacher efficacy, from its theoretical foundations in Bandura's (1977, 1989) social cognitive theory, to its relationship with collective efficacy, to its impact on student achievement. From prior research, scholars have proposed models that have incorporated numerous variables in attempts to explain the factors that most contribute to teacher efficacy. Additionally, scholars have included various demographic characteristics of schools and teachers in studies to further describe influences on teacher efficacy. The following is a brief summary of selected demographic variables and includes related prior research.

## **Gender**

Although much teacher efficacy research focuses on teachers as a whole, selected researchers have attempted to describe differences in teaching efficacy between males and females. Riggs (1991) found, that males tended to be more efficacious about their science teaching abilities when compared females who also taught elementary science. Imants and DeBrabander (1996) found that males and females have distinct differences in areas of teaching where they feel efficacious. In their research females tended to score higher in areas focused general school efficacy and pupil-oriented tasks, where males were more efficacious in self-efficacy and school-oriented tasks. However, these differences were noted mostly among teachers with experience. Regarding beginning teachers, Imants and DeBrabander (1996) noted that males and females were almost identical in their teacher efficacy scores. Similarly, Tschannen-Moran and Woolfolk Hoy (2002) found no differences between males and females regarding in teacher efficacy beliefs specifically regarding the influence of resources and support.

## **Type of Certification**

With the ever-increasing teacher shortage in agricultural education (Kantrovich, 2007), the influx of alternatively certified teachers in the field has continued to grow (Feistritzer & Haar, 2008). With that in mind, researchers have conducted studies to document the self-perceived teacher efficacy of alternatively certified agriculture teachers. Rocca and Washburn (2005) found that alternatively certified teachers and traditionally certified teachers had similar teacher efficacy scores. However, these researchers implied that traditionally certified teachers had more pedagogical preparation, they were more critical of their teaching abilities than alternatively certified teachers.

Duncan and Ricketts (2008) found that traditionally certified agriculture teachers were more efficacious in their abilities to manage a secondary agriculture education program. Interestingly though, alternatively certified teachers were most efficacious about their pedagogical practices. Once again, because of their lack of formal pedagogical training, do these teachers simply not know enough to make a sound judgment of their abilities? To substantiate this, Robinson and Edwards (2012) found, in a study of beginning agriculture teachers, alternatively certified teachers indicated generally higher efficacy scores and the most growth in their efficacy scores over the course of their first year teaching. However, these same teachers did not receive the higher teaching performance scores based on their university supervisors' assessments.

### **Prior FFA or 4-H Involvement**

Teachers tend to be more efficacious about their teaching when they believe they have been adequately prepared (Goddard et al., 2004). Along with prior preparation, come prior experiences. Since teacher efficacy is a subset of self-efficacy, which, in turn is a component of Bandura's (1977, 1989) social cognitive theory one could argue that prior behaviors and experiences in specific environments (i.e. secondary agriculture education classroom as a student) could influence future agriculture education behavior. With that in mind, numerous researchers have attempted to document those factors that influence students' choice to teach agriculture. Research in this area has revealed that prior enrollment in high school agriculture education courses, FFA experience, and agriculture education teachers as being influential in students' choice to teach (Arrington, 1985; Edwards & Briers, 2001; Hillison, Camp, & Burke, 1986; Kotrlik & Harrison, 1987). However, as of yet, no research exists that documents the influence of prior FFA experience on beginning agriculture teachers' perceived teaching efficacy.

## **Summary of the Research Literature**

Teacher efficacy is a dynamic concept that can influence, at a minimum, teacher retention and student achievement. The list factors that influence an individual teacher's perceived teaching efficacy can be virtually limitless. However, the quality of the preservice teacher education program, organizational support for the beginning teacher, and perceived collective efficacy of the teaching staff have been found to be common themes in teacher efficacy literature. Research has been conducted that has investigated each factor and how they impact teacher efficacy. Few studies, however, have included those three factors in a model to predict their influence on teacher efficacy. By understanding the factors and how they affect teacher efficacy, those in positions to help will be better able to develop programs to assist beginning agriculture teachers as they embark on their careers.

## **Conceptual Framework**

The conceptual framework (Figure 3) of the study was developed as a result of an extensive literature review. The focus of the study is on the dependent variable of teacher efficacy of beginning agriculture teachers in the central region of the United States. Teacher efficacy will be measured during the 2012-2013 school year, after the study participants have completed a minimum of 18 weeks of instruction. Knobloch (2002) noted that perceptions of environmental factors should be measured at the end of the first semester to maximize the variance among the participants. In this research study there were three independent variables identified and included to determine their influence on teacher efficacy. These variables included quality of the preservice teacher education program, organizational support for the beginning teacher, and perceived collective efficacy.

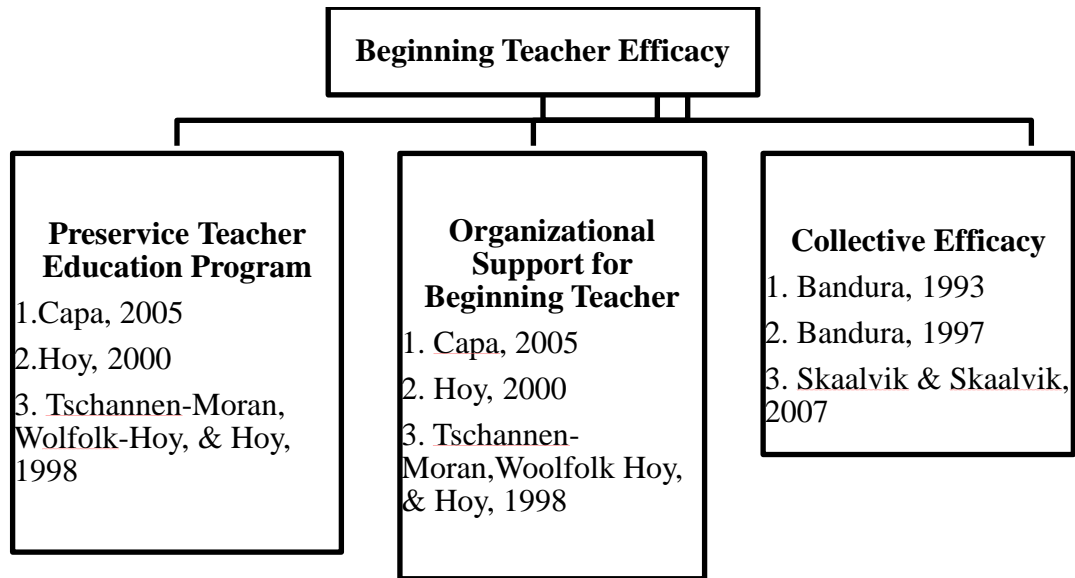


Figure 3. Factors that may contribute to the variability of beginning teacher self-efficacy.

## **CHAPTER 3: METHODOLOGY**

### **Population**

The target and accessible population for the study included beginning secondary agricultural education teachers in Missouri and Kansas. Since the researcher resided and taught in Missouri, the beginning teachers in these states were selected as contact data for these teachers were readily available. Specifically, this population consisted of teachers in their first, second, third, fourth, and fifth year teaching agriculture education during the 2012-2013 school year ( $n = 213$ ; 1<sup>st</sup> year,  $n = 46$ ; 2<sup>nd</sup> year,  $n = 49$ ; 3<sup>rd</sup> year,  $n = 38$ ; 4<sup>th</sup> year,  $n = 34$ ; 5<sup>th</sup> year,  $n = 46$ ). Teachers who will have completed 5.5 years by the end of the 2012-2013 school year were not included in the study. The names and contact information for the beginning agriculture teachers were obtained from the Missouri Department of Elementary and Secondary Education (DESE) and the Kansas State Department of Education (KSDE).

### **Instrumentation**

#### **Teaching Efficacy Scale**

After an extensive literature review of teaching efficacy instruments, no current instrument existed that met the needs of this study. Therefore, with permission from the author (Appendix H), a modified version of the Teachers' Sense of Efficacy Scale-Short Form (TSES-SF) (Tschannen-Moran, & Woolfolk Hoy, 2001) was used to elicit the efficacy beliefs of the beginning teachers in the study. The TSES-SF is a 12 item scale that measured teaching self-efficacy across three constructs: Efficacy in Student Engagement, Efficacy in Instructional Practices, and Efficacy in Classroom Management. The nine-point scale included the following response choices: 1 = *Nothing*, 3 = *Very Little*, 5 = *Some Influence*, 7 = *Quite a Bit*, and 9 = *A Great Deal*. Each construct consisted of four items. Table 1 includes the efficacy statements

comprising the TSES-SF. Reliabilities for the TSES-SF as well as the sub-scales have been determined and documented by Tschannen-Moran, and Woolfolk Hoy (2001). These data are found in Table 2.

Table 1. Sub-scale Statements for the Teachers' Sense of Efficacy Scale – Short Form

Sub-scales/Statements
<b>Student Engagement</b>
How much can you do to motivate students who show low interest in school work?
How much can you do to get the students to believe they can do well in school work?
How much can you do to help your students value learning?
How much can you assist families in helping their children do well in school?
<b>Instructional Practices</b>
To what extent can you craft good questions for your students?
How much can you use a variety of assessment strategies?
To what extent can you provide an alternative explanation or example when students are confused?
How well can you implement alternative strategies in your classroom?
<b>Classroom Management</b>
How much can you do to control disruptive behavior in the classroom?
How much can you do to get children to follow classroom rules?
How much can you do to calm a student who is disruptive or noisy?
How well can you establish a classroom management system with each group of students?
<i>Note.</i> Response options: 1 = <i>Nothing</i> , 3 = <i>Very Little</i> , 5 = <i>Some Influence</i> , 7 = <i>Quite a Bit</i> , and 9 = <i>A Great Deal</i> .

Table 2. Reliability Data for the Teachers' Sense of Efficacy Scale – Short Form

Scale	<i>M</i>	<i>SD</i>	Cronbach's <i>a</i>
Teachers' Sense of Efficacy Scale – Short Form	7.1	.98	.90
Student Engagement Sub-scale	7.2	1.2	.81
Classroom Instruction Sub-scale	7.3	1.2	.86
Classroom Management Sub-scale	6.7	1.2	.86

Upon analysis of the TSES-SF the researcher determined modifications were needed to improve the readability and response options. The instructions were modified for readability purposes to “Please indicate your level of agreement with each of the following statements about your teaching.” The response options were changed from 1 = *Nothing*, 3 = *Very Little*, 5 = *Some*

*Influence, 7 = Quite a Bit, and 9 = A Great Deal to 1 = Very Strongly Disagree, 2 = Strongly Disagree, 3 = Disagree, 4 = Moderately Disagree, 5 = Neutral, 6 = Moderately Agree, 7 = Agree, 8 = Strongly Agree, 9 = Very Strongly Agree.* The modified statement are presented in Table 3. The revised scale can be found in Appendix C.

Table 3. Modified Statements of the Teachers' Sense of Efficacy Scale – Short Form for Beginning Agriculture Teachers in Missouri and Kansas

Statement
<b>Student Engagement</b>
I can motivate students who show low interest in school work.
I can get students to believe they can do well in school work.
I can help students value learning.
I can assist families in helping their children do well in school.
<b>Instructional Practices</b>
I can craft good questions for my students.
I can use a variety of assessment strategies.
I can provide an alternative explanation or example when students are confused.
I cannot implement alternative strategies in my classroom. (reverse coded)
<b>Classroom Management</b>
I can control disruptive behavior in the classroom.
I can get children to follow classroom rules.
I can calm a student who is disruptive or noisy.
I can establish a classroom management system with each group of students.
<i>Note.</i> Response options: 1 = <i>Very Strongly Disagree</i> , 2 = <i>Strongly Disagree</i> , 3 = <i>Disagree</i> , 4 = <i>Moderately Disagree</i> , 5 = <i>Neutral</i> , 6 = <i>Moderately Agree</i> , 7 = <i>Agree</i> , 8 = <i>Strongly Agree</i> , 9 = <i>Very Strongly Agree</i> .

## Principal Behavior Scale

The Principal Behavior Scale, used with permission from the authors (Appendix I), is a sub-scale of the larger Organizational Climate Description Questionnaire for Secondary Schools (OCDQ-RS) (Hoy, Tarter, & Kottkamp, 2000). Within the larger instrument, this sub-scale contained seven items and measured a teacher's perception of the principal's efforts to motivate teachers by indicating the observed frequency of practices such as the principal using constructive criticism and setting an example by working hard while being helpful and genuinely

concerned with the personal and professional welfare of the teachers. The scale included four response options: 1 = *Rarely Occurs*, 2 = *Sometimes Occurs*, 3 = *Frequently Occurs*, and 4 = *Very Frequently Occurs*. The Principal Behavior Scale can be found in Appendix C. The reliability of the Principal Behavior Scale was reported by Hoy (2001) as  $\alpha = .91$ . Further analysis, including factor loadings can be found in Table 4.

Table 4. Factor Loadings for the Principal Behavior Scale used to Determine the Frequency of Principal Support as Perceived by Beginning Agriculture Teachers in Missouri and Kansas

Item	Factor loading
The principal sets an example by working hard.	.83
The principal uses constructive criticism.	.81
The principal is available after school to help teachers when assistance is needed.	.76
The principal looks out for the personal welfare of the faculty.	.74
The principal goes out of the way to help teachers.	.73
The principal explains their reason for criticism to teachers.	.69
The principal compliments teachers.	.65

*Note.* Response options: 1 = *Rarely Occurs*, 2 = *Sometimes Occurs*, 3 = *Frequently Occurs*, 4 = *Very Frequently Occurs*.

### **Collective Efficacy Scale – Short Form**

The Collective Efficacy Scale – Short Form (Goddard, 2002) was used, with permission from the author (Appendix I) to measure the collective efficacy of the teaching staff of each school where the beginning teachers were employed, as perceived by the beginning teachers. The Collective Efficacy Scale – Short Form is a shortened version of Goddard, Hoy, and Woolfolk Hoy's (2000) Collective Efficacy Scale. Ideally, this instrument is to be used to measure the collective efficacy of a school's entire teaching staff as a professional development tool.

The short form of the Collective Efficacy Scale contained 12 items and measured the shared perceptions of teachers in a specific school that the efforts of the faculty will have

positive effects on students (Goddard, 2002). To capture answers where there may be subtle perception differences, the Likert-type scale included six response options: 1 = *Strongly Disagree*, 2 = *Disagree*, 3 = *Slightly Disagree*, 4 = *Slightly Agree*, 5 = *Agree*, and 6 = *Strongly Agree*. Hoy (2001) indicated the reliability of the scale was .96. Goddard, Hoy, and Woolfolk Hoy (2000) noted a moderate and positive ( $r = .54, p < .01$ ) correlation between personal teacher efficacy and collective teacher efficacy. Goddard (2002) explained that scores from the 12-item scale and the original 21-item scale were highly correlated ( $r = .98$ ). Furthermore, an internal consistency score of  $\alpha = .94$  was established. Additionally, Goddard conducted a factor analysis of the shortened scale and identified the structure coefficient (factor loading) for each item. This information is found in Table 5.

Table 5. Factor Loadings for the Collective Efficacy Scale – Short Form as Reported by Goddard (2002)

Item	Factor loading
These students come to school ready to learn.	.91
Teachers here are confident they will be able to motivate their students.	.91
Learning is more difficult at this school because students are worried about their safety.	.86
Students here aren't motivated to learn.	.84
Drug and alcohol abuse in the community make learning difficult for students here.	.82
The opportunities in this community help ensure that these students will learn.	.80
Teachers in this school are able to get through to difficult students.	.79
Teachers in this school really believe every child can learn.	.76
Home life provides so many advantages the students here are bound to learn.	.75
Teachers here don't have the skills needed to produce meaningful student learning.	.73
Teachers in this school do not have the skills to deal with students disciplinary problems.	.73
If a child doesn't want to learn teachers here give up.	.67

*Note.* Response options: 1 = *Strongly Disagree*, 2 = *Disagree*, 3 = *Slightly Disagree*, 4 = *Slightly Agree*, 5 = *Agree*, and 6 = *Strongly Agree*.

## **Teacher Preparation Scale**

Researchers (Darling-Hammond, Chung, & Felow, 2002; Raudenbush, Rowen, & Cheong, 1992) have indicated that teacher efficacy of beginning teachers is influenced by how those teachers perceived their preservice teacher education program. After an extensive search, no scale was identified that adequately addressed the professional preparation needed by teachers. The Teacher Preparation Scale was developed based upon the National Quality Program Standards for Secondary (Grades 9-12) Agricultural Education established by The National Council for Agricultural Education (2009). This scale was developed by the researcher to elicit data from the beginning teachers about how they perceived the preparation to teach that they received from their preservice teacher education program and included 10 items in Likert-type format. The five response choices for the scale were: 1 = *Not At All*, 2 = *Somewhat*, 3 = *Adequately*, 4 = *Well*, and 5 = *Very Well*. This scale can be found in Appendix C.

## **Demographics**

The demographics section of the research instrument included 21 items. These items included gender, age, years teaching, ethnicity, college degree, school size, agriculture education enrollment, FFA membership, number of agriculture teachers in the school where the beginning teacher teaches, community characteristics, and prior FFA and/or 4-H membership of the beginning teacher. This information was collected to provide a general description of the beginning teachers in Missouri and Kansas and to be used as variables in statistical analyses. These questions can be found in Appendix C.

## **Pilot Test**

An essential step in survey research includes the use of a pilot test. Gall, Borg, and Gall (1996) suggested that a “thorough pretest of the questionnaire” (p. 298) should be conducted before its use in a research study. A pilot test was conducted, utilizing a web-based survey

instrument, between May 8 and May 20, 2013 following the Internet survey procedures outlined by Dillman, Smyth, and Christian (2009). Thirty agricultural education teachers from Texas who had not completed more than five years teaching agricultural education, were identified and a request was made to complete the study. All teachers requested to complete the study did so within the allotted time frame. Additionally, with the use of researcher developed instruments, this step is required to analyze and improve the quality of the items within the instruments. One of the primary functions of the pilot test was to gather information about individual items within the instruments to conduct factor analyses to assist with data reduction.

Once the pilot test data was collected, a measure of sampling adequacy (MSA) was used to determine which items should be included in the subsequent factor analysis. Measure of sampling adequacy refers to what correlations exist between the variables in the research instrument (Hair et al., 2010). Hair et al. (2010) recommended an MSA of .50 or more for items to be included in factor analysis. Component factor analysis was conducted to aid in reducing the number of individual items, when necessary, on each researcher developed instrument. Upon the computation of the component factor analysis and initial factor matrix, the data was subjected to orthogonal VARIMAX rotation. Factor rotation was conducted as Hair et al. (2010) indicated that rotating the factor matrix "... is to redistribute the variance from earlier factors to later ones to achieve a simpler, theoretically more meaningful factor pattern" (p.113). Factor loadings, or the correlation between an original variable and its factor (Hair et al., 2010), are scrutinized relative to the sample size of the study. Hair et al. (2010) indicated that factor loadings of .50 are considered practically significant. However, factor loadings of .70 "... are considered indicative of well-defined structure and are the goal of any factor analysis" (Hair et al., 2010, p. 117).

Considering the maximum number of study participants, items on the researcher developed instruments must have loaded at .70 or higher to be included.

### **Pilot Data Regarding Teacher Preparation Scale**

The researcher developed Teacher Preparation Scale was designed to elicit data from the beginning teachers about how they perceived the preparation to teach they received from their preservice teacher education program. The scale was Likert-type in format and included 10 items with the response choices: 1 = *Not At All*, 2 = *Somewhat*, 3 = *Adequately*, 4 = *Well*, and 5 = *Very Well*.

The results of the pilot study included data that was used to determine if the scale was to be used in the succeeding research study. Upon completion of data analysis, information was collected indicating further use of the scale. It should be noted five cases were excluded in the analysis as five respondents indicated they had not completed a preservice teacher education program and, therefore did not complete this scale within the larger research instrument. Initially, internal consistency (Cronbach's *alpha*) was determined to be  $\alpha = .94$ . Following the rule of thumb outlined by George and Mallery (2003), this internal consistency score is excellent. However, internal consistency does not indicate the dimensionality of the scale.

Since this scale was specifically designed to collect information regarding a single dimension, preservice teacher education program quality, the use of factor analysis was used to determine if the scale was unidimensional. The results of the factor analysis indicated a Kaiser-Meyer-Olkin Measure of Sampling Adequacy (MSA) of .83. Hair et al. (2010) indicated MSA scores of .50 should be obtained before any factor analysis should occur. Due to the acceptable MSA, factor analysis was conducted. Upon the computation of the component factor analysis and initial factor matrix, only one factor was identified and the use of VARIMAX orthogonal

rotation of the data was not conducted. Upon examination of the factor loadings it was determined that all 10 items would be used in the scale. Table 6 includes the factor loading for each item in the scale.

Table 6. Factor Matrix for the Teacher Preparation Scale for Beginning Agriculture Teachers in Missouri and Kansas

Item	Factor loading
<b>My teacher preparation program prepared me to...</b>	
Assess student learning.	.89
Coordinate year-round instruction integrating classroom & laboratory instruction, experiential learning, and leadership & personal development.	.87
Market the agricultural education program to community stakeholders.	.87
Deliver curriculum in an integrated model that incorporates classroom & laboratory instruction, experiential learning, and leadership & personal development.	.87
Utilize advisory councils to determine areas for program development.	.86
Create and foster school and community partnerships to assist in developing and supporting the agricultural education program.	.83
Provide students with opportunities for the development and application of knowledge and skills.	.81
Manage student supervised agricultural experience programs.	.75
Pursue professional growth through continued participation in professional development.	.73
Motivate students to participate in FFA programs and activities.	.72

*Note.* Response options: 1 = *Not At All*, 2 = *Somewhat*, 3 = *Adequately*, 4 = *Well*, and 5 = *Very Well*.

### Data Collection

Dillman et al. (2009) explained the procedures to collect data using an Internet-based system. These researchers indicated that subtle differences existed between collecting data via this system versus a mail system. The main difference between the two systems, other than the modality in which data is collected, lies in the use of pre-notification correspondence of a forthcoming survey or questionnaire. When using an Internet-based survey system, the pre-notice letter most often used by mail survey methods can be forfeited in lieu of an initial e-mail invitation to participate in a survey (Dillman et al., 2009). In the initial e-mail invitation,

the respondent is provided information regarding the purpose and usefulness of their participation in the survey. Along with this, instructions on how to access the survey including the survey link, and individualized access codes are provided. It is noted in the initial e-mail invitation that the survey is voluntary and that all answers and participation will be kept confidential. Also, the letter indicates that the respondents' completion of the survey indicates their agreement to participate in the study. Finally, contact information for the survey administrator along with gratitude for participating in the survey is included. A copy of the initial e-mail invitation can be found in Appendix E.

Data was collected during the months of June and July 2013. On June 11 an initial e-mail (Appendix E) was sent to the potential study participants informing them of the study and requesting their participation. On June 18 and June 25 additional email requests (Appendices F and G) were sent to non-respondents. The e-mail survey requests explained the purpose of the study; explained why each teacher was selected; informed the teachers their participation was voluntary; informed the teachers their information will remain confidential; and contained the information needed for the teacher to contact Louisiana State University's Institutional Review Board if they had questions or concerns. The e-mail messages contained a link to the survey as well as a link to opt out of completing the survey.

The data collection for the study included all beginning agriculture teachers in Missouri and Kansas who had not completed more than five years teaching agricultural education ( $N = 213$ ). This round of data collection resulted in 103 returned surveys after three weeks yielding a 48.45% response rate. Follow-up phone calls were made to 107 teachers, of which 77 completed the survey resulting in a nonresponse follow-up rate of 71.9%. The final usable response rate was 84.5%.

## **Sample Data Representative of the Population**

According to Dillman et al. (2009) as nonresponse error in survey research increases, the results and recommendations, developed from the collected data, become suspect and decreasingly valuable as evidence of the target population characteristics. Therefore, controlling nonresponse error is of utmost importance. Lindner, Murphy, and Briers (2001) recommended comparison of respondents to nonrespondents as the most acceptable technique as compared to the techniques of comparing early versus late responders (Armstrong & Overton, 1977) or using “days to respond” as a regression variable. The technique outlined by Lindner et al. (2001), requires the researcher to sample nonrespondents, “work extra diligently to get their responses, and then compare their responses to other (previous) respondents” (p. 52). These researchers suggest this method be used if a minimum of 20 responses from a random sample of nonrespondents can be received. “Using fewer than 20 responses threatens the statistical power to detect differences between respondents and nonrespondents” (p. 52). The procedure suggested by Lindner et al. (2001) was used as a guide to collect nonrespondent data from which comparisons to respondents could be made.

## **Data Analysis**

Data entry and analysis was conducted using SPSS. The data collected in this study was analyzed and described for each research objective as indicated below.

Research Objective 1 sought to determine the demographic characteristics of the beginning agriculture teachers in Missouri during the 2012-2013 school year. Namely, these characteristics were age, gender, teaching experience, race/ethnicity, college degree, school and community characteristics, and prior FFA or 4-H membership. Interval data (age, teaching experience, and current school FFA membership) was summarized using means and standard

deviations. Nominal data (gender, ethnicity, college degree, school and community characteristics, and prior FFA or 4-H membership) was summarized using frequencies and percentages by categories.

Research Objective 2 sought to describe the beginning teachers regarding the variables perceived teaching efficacy, perceived teacher preparation program quality, perceived principal support, and perceived collective efficacy. Data was described using means and standard deviations of scale items, summated scale means and standard deviations, and scale internal consistency (Cronbach's *alpha*).

Research Objective 3 sought to describe the differences among the beginning teachers regarding the data collected for Objective 2. To determine what differences may exist by years of experience, appropriate statistical analyses were conducted namely, Multivariate Analysis of Variance (MANOVA) as well as Analysis of Variance (ANOVA). To determine any practical significance to the MANOVA or ANOVA, the effect size was calculated and interpreted using Cohen's *f*. According Cohen (1988), effect size is interpreted using the following values, .0196-.1299 = small effect size, .1300-.2599 = medium effect size, and >.2600 = large effect size

Research Objective 4 sought to determine what relationships exist among the agriculture teachers' perceived teaching efficacy, perceived collective efficacy, perceived preservice teacher education program quality, and perceived principal support. Bivariate correlations were calculated to determine what relationships exist among these variables. For those relationships that are found to be statistically significant, the set of descriptors published by Davis (1971) will be used to interpret the strength of the relationships.

Research Objective 5 sought to determine if a significant proportion of the variance in teaching efficacy can be explained by the variables perceived preservice teacher education

program quality, perceived principal support, and perceived collective efficacy. Forward multiple regression analysis was employed to explain any variance in the teaching efficacy. Effect size was calculated and interpreted using  $R^2$ . Cohen (1988) indicated the following values to interpret effect size, .0196 = small effect size; .1300 = medium effect size and; >.2600 = large effect size.

## **Outliers**

Observations with a unique combination of characteristics identifiable as distinctly different from the other observations are deemed outliers (Hair et al., 2010). Outliers are not specifically designated as beneficial or problematic but, are viewed within the context of the analysis and must be evaluated by the type of information they provide (Hair et al., 2010). Beneficial outliers can be indicative of population characteristics that may not be discovered in the normal course of analysis, while problem outliers are not representative of the normal population, counter to the objectives of the analysis and may dramatically distort statistical tests (Hair et al., 2010). From a multivariate perspective, the Mahalanobis  $D^2$  was used to identify potential outliers. The maximum calculated Mahalanobis  $D^2$  value (12.321,  $df = 3$ ) for the forward multiple regression analysis did not exceed the Chi-squared distribution table score of 16.266 ( $p = .001$ ), indicating scores were normally distributed.

## **Multicollinearity**

Multicollinearity is the extent to which a variable (independent variable) can be explained by other variables (independent variables) in the analysis (Hair et al., 2010). As Multicollinearity increases, it obscures the interpretation of the variable as it becomes more difficult to determine the effect of any individual variable (Hair et al., 2010). Therefore, controlling multicollinearity is vital to reduce shared variance between independent variables to insure the predictive power of the independent variables on the dependent variable.

To assess multicollinearity, a measure expressing the degree to which each independent variable is explained by the other independent variables is needed. “In simple terms, each independent variable becomes a dependent variable and is regressed against the remaining independent variables” (Hair et al., 2010 p. 200-201). Multicollinearity was assessed using the variance inflation factor (VIF). The VIF is calculated as the inverse of the tolerance value (Hair et al., 2010). Hair et al. (2010) suggested a VIF value of 10.0 be considered a cutoff before attempting to remedy multicollinearity issues. The calculated VIF for the variables included in the forward multiple regression analysis were 1.181, therefore, no variables were omitted to control multicollinearity.

## **CHAPTER 4: FINDINGS**

The primary purpose of this study was to identify the perceived level of self-efficacy of beginning secondary agriculture teachers and to investigate factors that may explain variation among levels of those teachers' sense of teaching efficacy. Self-efficacy factors include support within the organization (principal), the teacher preparation program quality, and perceived collective efficacy of the organization. The accessible population of the study included all teachers ( $N = 213$ ) in Missouri and Kansas who had not yet completed more than five years teaching in agricultural education. One-hundred eighty teachers participated in the study yielding a response rate of 84.5%. Specifically, 53 of 66 teachers in Kansas participated yielding a response rate of 80.3%, and 127 of 147 teachers in Missouri participated yielding a response rate of 86.4%.

Upon completion of data collection methods and follow-up procedures outlined by Dillman et al. (2010), 103 out of 213 surveys were returned for an initial response rate of 48.35%. The researcher contacted 107 of the nonrespondents. Telephone contact information for three respondents was incorrect and attempts to contact these individuals were unsuccessful. A larger number of nonrespondents, than has been suggested by prior researchers, were contacted in order to provide a large enough sample to complete the necessary statistical procedures required in this study. Of the 107 nonrespondents, for whom accurate contact information was available, all 107 agreed to complete the web-based survey if the survey link was resent. Several individuals requested the survey be sent to alternate email addresses in order to by-pass their institutional firewall. Although, 107 nonrespondents agreed to complete the survey, a total of 77 responded, yielding a nonresponse follow-up response rate of 71.96%.

Upon completion of the nonresponse follow-up, a total of 180 teachers responded to the survey, yielding a total response rate of 84.5%.

Upon collecting the necessary responses, the mean scores of the respondents and nonrespondents on the four scales used in the study were compared to identify any differences that may have existed between the two groups. A *t*-test for Equality of Means was computed to determine what, if any, differences existed. The *t*-test for Equality of Means yielded no significant differences between the respondents and nonrespondents on any of the four scales. Therefore, it was concluded that the data collected were representative of the population. The follow-up data were combined with the data from the three emailings for further analyses. These data are presented in Table 7.

Table 7. Analysis of Differences in Scale Means between Responding and Nonresponding Beginning Agriculture Teachers in Missouri and Kansas

Scale	Equal Variances Assumption	Levene's Test for Equality of Variances		<i>t</i> -test for Equality of Means				
		<i>F</i>	<i>p</i>	<i>t</i>	<i>df</i>	<i>P</i> (2-tailed)	Mean Difference	<i>SE of the Difference</i>
Principal Support	Equal Variances Assumed	1.10	.295	.60	178	.548	.06	.11
Preservice Education	Equal Variances Assumed	.52	.472	.16	164	.875	.02	.13
Collective Efficacy	Equal Variance Not Assumed	2.68	.104	-1.21	178	.226	-.12	.10
Teacher Efficacy	Equal Variances Assumed	.92	.339	.14	178	.893	.02	.14

*Note.* Since none of the Levene's tests for equality of variances were statistically significant, equal variances were assumed for all tests.

## **Research Objective 1: Selected Personal and Demographic Characteristics of Beginning Agriculture Teachers**

Research objective 1 sought to describe the demographic characteristics of the beginning agriculture teachers in Missouri and Kansas during the 2012-2013 school year, namely age, gender, teaching experience, race/ethnicity, certification status, school and community characteristics, and prior FFA or 4-H membership.

To assess research objective 1, descriptive statistics were calculated for the variables age, teaching experience, current school FFA membership, school size, and prior FFA and 4-H membership. Data regarding gender, ethnicity, teacher certification status and community characteristics were summarized using frequencies and percentages by categories. These data are presented in Tables 8 through 18.

### **Gender**

The first variable used to describe the teachers participating in the study was gender. Of the 180 study participants, 94 teachers (52.2%) were female and 86 (47.8%) were male.

### **Race/Ethnicity**

Another variable on which the teachers were described was race/ethnicity. One-hundred seventy-eight (98.3%) teachers identified themselves as non-Hispanic white, and two respondents (1.7%) identified themselves as Asian or Pacific Islander.

### **Age**

The third variable used to describe the teachers was age. The age of the teacher was self-reported by the each individual while completing the demographic section of the survey instrument. The mean age of the teachers was 27.6 years ( $SD = 6.25$ ) with the youngest participant reporting an age of 23 and the oldest participant reporting an age of 55.

## Teaching Experience

Teaching experience of the study participants was described using three formats. First, the teachers indicated the years, including the current year, in which they had been employed as an agricultural education teacher. Second, the teachers indicated how many years, including the current year, they had been employed at their current school as an agricultural education teacher. The third descriptor focused upon prior teaching experience in field outside of agricultural education the study participants had completed. The mean teaching experience of the respondents in agricultural education was 2.72 years ( $SD = 1.44$ ). Additionally, the mean teaching experience in agricultural education at the respondents' current school was 2.27 years ( $SD = 1.32$ ). Finally, 17 teachers had teaching experience in subjects other than agricultural education. These experiences ranged from 1 year to 17 years. The mean teaching experience of the 17 teachers in other subject areas was 6.41 years ( $SD = 2.03$ ). These data are found in Tables 8-10.

Table 8. Teaching Experience of Beginning Agriculture Teachers in Missouri and Kansas

Years of teaching experience	<i>n</i>	%
1	48	26.7
2	43	23.9
3	31	17.2
4	27	15.0
5	31	17.2
Total	180	100.0

*Note.*  $M = 2.72$ ;  $SD = 1.44$ ; Range = 1 – 5.

Table 9. Current School Teaching Experience of Beginning Agriculture Teachers in Missouri and Kansas

Years of teaching experience	<i>n</i>	%
1	68	37.8
2	47	26.1
3	30	16.7
4	18	10.0

(Table 9 continued)

Years of teaching experience	n	%
5	17	9.4
Total	180	100.0

*Note.*  $M = 2.27$ ;  $SD = 1.32$ ; Range = 1 – 5.

Table 10. Beginning Missouri and Kansas Agriculture Teachers' Years of Teaching Experience in Subjects other than Agricultural Education

Years of teaching experience	<i>n</i>	%
1	4	2.2
2	3	0.6
3	0	0.0
4	1	0.6
5	1	0.6
6	1	0.6
7	1	0.6
8	1	0.6
9	0	0.0
10	0	0.0
11	2	1.1
12	0	0.0
13	0	0.0
14	0	0.0
15	2	1.1
16	0	0.0
17	1	0.6
Total	180	100.0

*Note.*  $M = 6.41$ ;  $SD = 2.03$ ; Range = 1 – 17.

## Teacher Certification

The fifth variable on which the teachers were described was teacher certification.

Teachers indicated the method they employed to seek certification as an agricultural education teacher. These choices included a traditional route; an alternative route; and an option was available for the teachers to indicate if they were currently finishing requirements to complete certification. Over two-thirds of the teachers ( $n = 153$ , 85.0%) indicated they completed a traditional teacher certification program. Twenty (11.1%) teachers indicated they had received

their teacher certification through an alternative method. The remaining teachers ( $n = 7$ , 3.9%) indicated they were in the process of completing certification. These data are presented in Table 11.

Table 11. Teacher Certification Methods of Beginning Missouri and Kansas Agricultural Education Teachers

Type of Certification	<i>n</i>	%
Certified-Traditional Route	153	85.0
Certified-Alternative Route	20	11.1
Certification in Progress	7	3.9
Total	180	100.0

### School Demographics

Additional variables were included to describe the school in which the participants taught. Included in this set of variables was school enrollment. The mean student enrollment of the schools where the teachers were employed was 357 ( $SD = 437.5$ ) students and ranged from 35 students to 4,000. It should be noted that eleven teachers indicated that they taught in schools with a student population of more than 1,000 students. Agricultural education enrollment and FFA membership were also included in the school demographic data. The mean enrollment in agricultural education courses where the respondents taught was 97.3 ( $SD = 76.9$ ) students with a range of 10 students to 650 students. The mean FFA membership at the schools where the respondents taught was 79.6 ( $SD = 73.1$ ) and ranged between 4 members to 650 members. Finally, the number of agricultural education teachers that taught in the school with the study participants was included in the school demographic data. The range of teachers within in an agricultural education department ranged from 1 to 5. More than half of the teachers ( $n = 126$ , 70.0%) taught in a school where they were the only teacher. Forty-three teachers (23.9%) taught in a department with an additional agricultural education teacher. Seven teachers (3.9%) taught in a school with three agricultural education teachers. Three teachers (1.7%) taught in schools

with four agricultural education teachers. One teacher (0.6%) indicated they taught in a school that employed five agricultural education teachers. These data are presented in Tables 12-15.

Table 12. Student Enrollment at Schools Where Beginning Agriculture Teachers in Missouri and Kansas Taught

Range of Student Enrollment	<i>n</i>	%
1-100	33	18.3
101-200	48	26.7
201-300	37	20.6
301-400	15	8.3
401-500	16	8.9
501 or more	31	17.2
Total	180	100.0

*Note.*  $M = 357$ ;  $SD = 437.5$ ; Range = 35 – 4000.

Table 13. Agricultural Education Enrollment in Missouri and Kansas Schools Where Beginning Agriculture Teachers Taught

Agricultural Education Enrollment	<i>n</i>	%
1-50	46	25.5
51-100	77	42.8
101-150	32	17.8
151-200	12	6.7
201 or more	13	7.2
Total	180	100.0

*Note.*  $M = 97.3$ ;  $SD = 76.9$ ; Range = 10 – 650.

Table 14. FFA Membership in Schools Where Beginning Missouri and Kansas Agriculture Teachers Taught

FFA Membership	<i>n</i>	%
1-50	72	25.5
51-100	69	42.8
101-150	25	17.8
151-200	6	6.7
201 or more	8	7.2
Total	180	100.0

*Note.*  $M = 79.6$ ;  $SD = 73.1$ ; Range = 4 – 650.

Table 15. Agricultural Education Department Faculty Size at Missouri and Kansas Schools Where Beginning Agriculture Teachers Taught

Number of Teachers	<i>n</i>	%
1	126	70.0
2	43	23.9
3	7	3.9
4	3	1.7
5	1	0.6
Total	180	100.0

*Note.*  $M = 1.39$ ;  $SD = .70$ ; Range = 1 – 5.

### Community Demographics

A description of the community where the school was located in which the teacher taught was also used as a variable to describe the teachers. A majority ( $n = 156$ , 86.7%) of the teachers indicated that the school in which they taught was located in a rural area or small town. Twenty teachers (11.1%) indicated they taught in a suburban community. Finally, four teachers (2.2%) indicated they taught in an urban area. Data regarding community descriptions are presented in Table 16.

Table 16. Location of Missouri and Kansas Schools Where Beginning Agriculture Teachers Taught

Type of Community	<i>n</i>	%
Rural/Small Town	156	86.7
Suburban	20	11.1
Urban	4	2.2
Total	180	100.0

### Prior FFA/4-H Membership

The last demographic variable used to describe the teachers was their prior FFA or 4-H membership. Over three-quarters ( $n = 138$ , 76.7%) of the respondents indicated they were involved in the FFA for at least four years. Interestingly, just over a tenth ( $n = 19$ , 10.6%) indicated that they were never involved in the FFA. Over one-fourth ( $n = 49$ , 27.2%) of the

respondents indicated no prior involvement in 4-H. The remaining respondents ( $n = 131$ , 72.8%) indicated involvement in 4-H ranging from 1 to 15 years. FFA and 4-H membership data are presented in Tables 17 and 18.

Table 17. Years of High School FFA Membership of Beginning Missouri and Kansas Agriculture Teachers'

Years of FFA Membership	<i>n</i>	%
0	19	10.6
1	6	3.3
2	8	4.4
3	9	5.0
4	138	76.7
Total	180	100.0

*Note.*  $M = 3.38$ ;  $SD = 1.40$ ; Range = 0 – 4.

Table 18. Beginning Missouri and Kansas Agriculture Teachers' Prior 4-H Membership

Years of 4-H Membership	<i>n</i>	%
0	49	27.2
1-5	25	14.0
6-10	71	39.4
11 or more	35	19.4
Total	180	100.0

*Note.*  $M = 6.07$ ;  $SD = 4.60$ ; Range = 0 – 15.

## Research Objective 2: Selected Characteristics of Beginning Agriculture Teachers

Research objective two sought to describe the typical beginning agriculture teacher with respect to teacher efficacy, teacher preparation program quality, principal support, and perceived collective efficacy.

### Principal Support

Perceived principal support was measured using the Principal Behavior Scale (Appendix C) which is a sub-test of the larger Organizational Climate Description Questionnaire for Secondary Schools (OCDQ-RS) (Hoy, Tarter, & Kottkamp, 2000). This scale contained seven

items and measured the teachers' perceptions of the supportive behaviors displayed by their principal.

Respondents rated the level of perceived principal support regarding seven behaviors displayed by their building principal. A 4-point anchored scale, with the response choices: 1 = *Rarely Occurs*, 2 = *Sometimes Occurs*, 3 = *Frequently Occurs*, and 4 = *Very Frequently Occurs*, was used to obtain the respondents' perceptions regarding each item. The means for this scale were interpreted as follows: 1.00 – 1.49: Rarely Occurs; 1.50 – 2.49: Sometimes Occurs; 2.50 – 3.49: Frequently Occurs; 3.50 – 4.00: Very Frequently Occurs.

With a summated scale mean of 2.80 ( $SD = .70$ ), the principals were perceived by the beginning agriculture teachers as frequently displaying supportive behavior. The beginning agriculture teachers identified “the principal sets an example by working hard,” ( $M = 3.07$ ,  $SD = .84$ ) and “the principal looks out for the personal welfare of the faculty” ( $M = 2.96$ ,  $SD = .93$ ) as the areas where they perceived the most supportive behavior. Conversely, the beginning agriculture teachers were least likely to perceive “the principal goes out of the way to help teachers” ( $M = 2.65$ ,  $SD = .94$ ).

Table 19. Level of Principal Support as Perceived by Beginning Agriculture Teachers in Missouri and Kansas

Principal Support Statement	<i>M</i>	<i>SD</i>	Rarely Occurs	Sometimes Occurs	Frequently Occurs	Very Frequently Occurs
The principal sets an example by working hard	3.07	0.84	7	36	74	63
The principal looks out for the personal welfare of the faculty	2.96	0.93	11	49	57	63
The principal uses constructive criticism	2.80	0.79	8	54	84	34
The principal explains their reason for criticism to teachers	2.72	0.88	16	53	76	35
The principal compliments teachers	2.71	0.88	15	58	72	35

(Table 19 continued)

Principal Support Statement	<i>M</i>	<i>SD</i>	Rarely Occurs	Sometimes Occurs	Frequently Occurs	Very Frequently Occurs
The principal is available after school to help teachers when assistance is needed	2.70	0.93	22	46	76	36
The principal goes out of the way to help teachers	2.65	0.94	16	73	49	42
Scale Total	2.80	0.70				

*Note.* Response options: 1 = *Rarely Occurs*, 2 = *Sometimes Occurs*, 3 = *Frequently Occurs*, 4 = *Very Frequently Occurs*. Interpretive scale: 1.00 – 1.49: Rarely Occurs; 1.50 – 2.49: Sometimes Occurs; 2.50 – 3.49: Frequently Occurs; 3.50 – 4.00: Very Frequently Occurs.

### Teacher Preparation Program Quality

Teacher preparation program quality was measured using a researcher designed scale. The scale was developed based upon the National Quality Program Standards for Secondary (Grades 9-12) Agricultural Education established by The National Council for Agricultural Education (2009). This anchored scale was developed to elicit data from the beginning teachers about how they perceived the preparation to teach they received from their teacher education program and included 10 items with the response choices: 1 = *Not At All*, 2 = *Somewhat*, 3 = *Adequately*, 4 = *Well*, and 5 = *Very Well*. Scores for this scale were interpreted using the following guidelines: 1.00 – 1.49: Not At All; 1.50 – 2.49: Somewhat; 2.50 – 3.49: Adequately; 3.50 – 4.49: Well; 4.50 – 5.00: Very Well.

According to the overall mean score for the scale ( $M = 3.47$ ,  $SD = .80$ ), the beginning agriculture teachers indicated their teacher education program adequately prepared them to teach agricultural education. The beginning teachers indicated they were well prepared to “pursue professional growth through continued participation in professional development,” ( $M = 3.76$ ,  $SD = 1.00$ ) “deliver curriculum in an integrated model that incorporates classroom and laboratory instruction, experiential learning, and leadership & personal development,” ( $M = 3.74$ ,  $SD = .93$ )

“provide students with opportunities for the development and application of knowledge and skills,” ( $M = 3.74$ ,  $SD = .91$ ) and “assess student learning” ( $M = 3.73$ ,  $SD = .88$ ). On the other hand, the teachers indicated they were adequately prepared to “utilize advisory councils to determine areas for program improvement,” ( $M = 3.09$ ,  $SD = 1.14$ ) and “manage students supervised agricultural experience programs.” ( $M = 3.07$ ,  $SD = 1.10$ ). It should be noted that 14 participants did not complete these questions as it was indicated they did not complete a teacher education program. These data are found in Table 20.

Table 20. Level of Teacher Preparation Program Quality as Perceived by Beginning Agriculture Teachers in Missouri and Kansas

Program Quality Statements	<i>M</i>	<i>SD</i>
Pursue professional growth through continued participation in professional development.	3.76	1.00
Deliver curriculum in an integrated model that incorporates classroom and laboratory instruction, experiential learning, and leadership & personal development.	3.74	0.93
Provide students with opportunities for the development and application of knowledge and skills.	3.74	0.91
Assess student learning	3.73	0.88
Motivate students to participate in FFA programs and activities.	3.58	1.06
Coordinate year-round instruction & laboratory instruction, experiential learning, and leadership & personal development.	3.46	1.05
Market the agricultural education program to community stakeholders.	3.28	1.13
Create and foster school and community partnerships to assist in developing and supporting the agriculture education program.	3.27	1.04
Utilize advisory councils to determine areas for program improvement.	3.09	1.14
Manage student supervised agricultural experience programs.	3.07	1.10
Scale Total	3.47	0.80

*Note.*  $N = 166$ . Response options: 1 = *Not At All*, 2 = *Somewhat*, 3 = *Adequately*, 4 = *Well*, 5 = *Very Well*. Interpretive scale: 1.00 – 1.49: Not At All; 1.50 – 2.49: Somewhat; 2.50 – 3.49: Adequately; 3.50 – 4.49: Well; 4.50 – 5.00: Very Well.

## Teaching Efficacy

The perceived teachers' sense of efficacy was measured using a modified version (Permission to use and modify the scale can be found in Appendix H.) of the Teachers' Sense of Efficacy Scale-Short Form (TSES-SF) (Tschannen-Moran & Woolfolk Hoy, 2001). This scale was designed to elicit teachers' perceptions about their efficacy in student engagement, instructional strategies, and classroom management. A 9-point Likert-type scale with the response options: 1 = *Very Strongly Disagree*, 2 = *Strongly Disagree*, 3 = *Disagree*, 4 = *Moderately Disagree*, 5 = *Neutral*, 6 = *Moderately Agree*, 7 = *Agree*, 8 = *Strongly Agree*, 9 = *Very Strongly Agree*, was used to obtain the information.

Since a modified version of the TSES-SF (Tschannen-Moran & Woolfolk Hoy, 2001) was used, principal component analysis (PCA) was used to determine whether the same three-factor model had been maintained based on the responses by participants in this study. The result of the Kaiser-Meyer-Olkin Measure of Sampling Adequacy (MSA) was .90. Hair et al. (2010) indicated that MSA scores of .50 should be obtained before any exploratory factor analysis should occur. Due to the acceptable MSA, exploratory factor analysis was conducted. Upon the computation of the PCA by employing VARIMAX rotation and retaining factors with eigenvalues greater than 1, the researcher modified TSES-SF was comprised of two sub-scales as compared to the three sub-scale format identified by Tschannen-Moran and Woolfolk Hoy (2001). Initially, internal consistency (Cronbach's *alpha*) was determined to be  $\alpha = .86$ . Following the rules of thumb outlined by George and Mallery (2003), this internal consistency of the scale is good. Upon analysis of the structure coefficients (factor loading) it was determined that all 12 items would be retained in the scale for analysis purposes. The amount of variance extracted by the two components accounted for 58.43 percent of the total variance. Factor one

with an eigenvalue of 4.54 accounted for 37.81 percent of the variance and factor two with an eigenvalue of 1.25 accounted for 10.41 percent of the variance. These data can be found in Table 21.

Table 21. Eigenvalues of Modified Teachers' Sense of Efficacy Scale-Short Form for Beginning Agriculture Teachers in Missouri and Kansas

Component	Eigenvalue Total	Eigenvalues % Variance	Cumulative %
Classroom Management	5.76	37.81	37.81
Instructional Practices	2.47	20.61	58.43

Where the original TSES-SF utilized a three-factor structure including *classroom management*, *student engagement*, and *instructional strategies*, the researcher modified version included a two factor structure comprised of *student engagement* and *instructional strategies*.

The reliability for the modified version of the TSES-SF scale was  $\alpha = .88$ . The reliabilities of the sub-scales were  $\alpha = .91$  for student engagement, and  $\alpha = .60$  for instructional strategies. The factor loadings, as well as the reliabilities, means, and standard deviations can be found in Table 22.

Table 22. Factor Loadings and Reliability Data for the Modified Version of the Teachers' Sense of Efficacy Scale-Short Form (TSES-SF) For Beginning Agriculture Teachers in Missouri and Kansas

Factor	Statements	Factor Loading
Student Engagement	Item 6: I can get students to follow classroom rules	.84
	Item 1: I can control disruptive behavior in my classroom.	.83
	Item 8: I can establish a classroom management system with each group of students.	.82
	Item 7: I can calm a student who is disruptive or noisy.	.81
	Item 5: I can craft good questions for my students.	.69
	Item 2: I can motivate students who show low interest in school work.	.68
	Item 3: I can get students to believe they can do well in school work.	.65

(Table 22 continued)

Factor	Statements		Factor Loading
Instructional Strategies	Item 4:	I can help students value learning	.49
	Item 10:	I can provide an alternative explanation or example when students are confused.	.82
	Item 9:	I can use a variety of assessment strategies.	.75
	Item 11:	I can assist families in helping their children do well in school.	.55
	Item 12:	I cannot implement alternative strategies in my classroom.	.46
Scale	Cronbach's <i>a</i>	<i>M</i>	<i>SD</i>
Modified Teachers' Sense of Efficacy Scale – Short Form	.88	81.94	9.54
Student Engagement	.91	53.90	7.19
Instructional Strategies	.60	28.04	3.50

*Note.* Response options: 1 = *Very Strongly Disagree*, 2 = *Strongly Disagree*, 3 = *Disagree*, 4 = *Moderately Disagree*, 5 = *Neutral*, 6 = *Moderately Agree*, 7 = *Agree*, 8 = *Strongly Agree*, 9 = *Very Strongly Agree*.

The mean teaching self-efficacy score for instructional strategies was 7.01 ( $SD = .88$ ).

The mean teaching self-efficacy score for student engagement of 6.74 ( $SD = .89$ ). Scores for this scale were interpreted using the following guidelines: 1.00 – 1.49: Very Strongly Disagree; 1.50 – 2.49: Strongly Disagree; 2.50 – 3.49: Disagree; 3.50 – 4.49: Moderately Disagree; 4.50 – 5.49: Neutral; 5.50 – 6.49: Moderately Agree; 6.50 – 7.49: Agree; 7.50 – 8.49: Strongly Agree; 8.49 – 9.00: Very Strongly Agree. Based upon the mean overall teaching efficacy score, the teachers moderately agreed that they had the ability to engage students and incorporate a variety of instructional strategies in the teaching and learning process. These data can be found in Table 23.

Table 23. Teaching Self-Efficacy Constructs for Beginning Missouri and Kansas Agriculture Teachers

Scale	<i>M</i>	<i>SD</i>
Instructional Strategies	7.01	0.88
I can provide an alternative explanation or example when students are confused.	7.37	1.00

(Table 23 continued)

Scale	<i>M</i>	<i>SD</i>
I can use a variety of assessment strategies.	7.17	1.15
I cannot implement alternative strategies in my classroom.	6.91	1.70
I can assist families in helping their children do well in school.	6.60	1.23
Student Engagement	6.74	0.89
I can control disruptive behavior in my classroom.	7.03	1.22
I can get children to follow classroom rules.	6.93	1.24
I can establish a classroom management system with each group of students.	6.83	1.23
I can get students to believe they can do well in school work.	6.73	0.99
I can calm a student who is disruptive or noisy.	6.68	1.22
I can craft good questions for my students.	6.64	1.25
I can help students value learning.	6.58	1.03
I can motivate students who show low interest in school work.	6.47	1.03
Total for Modified Teachers' Sense of Efficacy Scale – Short Form	6.83	0.80

Note. Response options: 1 = *Very Strongly Disagree*, 2 = *Strongly Disagree*, 3 = *Disagree*, 4 = *Moderately Disagree*, 5 = *Neutral*, 6 = *Moderately Agree*, 7 = *Agree*, 8 = *Strongly Agree*, 9 = *Very Strongly Agree*. Interpretive scale: 1.00 – 1.49: *Very Strongly Disagree*; 1.50 – 2.49: *Strongly Disagree*; 2.50 – 3.49: *Disagree*; 3.50 – 4.49: *Moderately Disagree*; 4.50 – 5.49: *Neutral*; 5.50 – 6.49: *Moderately Agree*; 6.50 – 7.49: *Agree*; 7.50 – 8.49: *Strongly Agree*; 8.49 – 9.00: *Very Strongly Agree*

### **Perceived Collective Efficacy**

To determine the perceived collective of the school staff with whom the beginning teachers taught, the Collective Efficacy Scale – Short Form (Goddard, 2002) was utilized. This scale is designed to determine the collective efficacy of an entire school faculty as perceived by each member of the faculty. In practice each member of a teaching faculty would complete the instrument and all would be totaled and a mean score computed. The mean score would then be standardized and compared to a normed set of data to determine the collective efficacy of the teaching faculty of a specific school. In this specific study, the scale was used to determine how

the agriculture teachers perceived the collective efficacy of the faculty with whom they taught. Goddard and Goddard (2001) indicated how a teacher perceives the teaching efficacy of colleagues has an influence on individual teaching efficacy.

The agriculture teachers in the study tended to perceive their school as a safe location for students to learn ( $M = 691.54$ ,  $SD = 124.11$ ). They also perceived their fellow faculty members as efficacious regarding their abilities to produce meaningful student learning ( $M = 621.14$ ,  $SD = 149.29$ ), motivating their students ( $M = 526.41$ ,  $SD = 136.86$ ), and managing student disciplinary issues ( $M = 522.93$ ,  $SD = 171.54$ ). However, the teachers in the study were less positive about the opportunities that their community presented to ensure that students will learn ( $M = 473.39$ ,  $SD = 168.05$ ) or that the home lives of their students provided advantages for them to learn ( $M = 291.74$ ,  $SD = 206.54$ ). These data are presented in Table 24.

Table 24. Faculty Collective Efficacy Scores as Perceived by Beginning Agriculture Teachers in Missouri and Kansas

Collective Efficacy Statement	<i>M</i>	<i>SD</i>
Learning is more difficult at this school because students are worried about their safety. <sup>a</sup>	691.54	124.11
Teachers here don't have the skills needed to produce meaningful student learning. <sup>a</sup>	621.14	149.29
Teachers in this school believe that every child can learn.	619.40	129.45
If a child doesn't want to learn, teachers here give up. <sup>a</sup>	530.75	169.83
Teachers here are confident they will be able to motivate their students.	526.41	136.86
Teachers in this school do not have the skills to deal with student disciplinary problems. <sup>a</sup>	522.93	171.54
Teachers in the school are able to get through to the most difficult students.	496.86	127.13
Drug and alcohol abuse in the community make learning difficult for students here. <sup>a</sup>	476.00	211.06
The opportunities in this community help ensure that these students will learn.	473.39	168.05
These students come to school ready to learn.	398.64	160.70
Students here just aren't motivated to learn. <sup>a</sup>	378.65	155.41
Home life provides so many advantages that students here are bound to learn.	291.74	206.54

(Table 24 continued)

Collective Efficacy Statement	<i>M</i>	<i>SD</i>
Perceived Collective Efficacy Scale:	502.29	99.66

*Note.* Response options: 1 = *Strongly Disagree*, 2 = *Disagree*, 3 = *Slightly Disagree*, 4 = *Slightly Agree*, 5 = *Agree*, and 6 = *Strongly Agree*. <sup>a</sup> Reverse coded for interpretative analysis.

Following the procedures outlined by Goddard (2002) a mean collective efficacy score was computed and standardized using the following formula:  $CE = 100(CE - 4.1201) / .6392 + 500$ . Utilizing the formula proposed by Goddard (2002), the mean standardized collective efficacy score of the participants in the study regarding how they perceived the collective efficacy of the faculties with whom they taught was 502.29 ( $SD = 99.66$ ). Goddard (2002) indicated that a collective efficacy score of 500 indicated a faculty that was average with regard to collective teaching efficacy when compared to the representative sample of schools used to standardize the scale. The distribution of collective efficacy scores was documented by Goddard (2002) and modeled a normally distributed bell curve. These scores are as follows:

If the score is 200, it is lower than 99% of the schools.

If the score is 300, it is lower than 97% of the schools.

If the score is 400, it is lower than 84% of the schools.

If the score is 500, it is average.

If the score is 600, it is higher than 84% of the schools.

If the score is 700, it is higher than 97% of the schools.

If the score is 800, it is higher than 99% of the schools.

Therefore, the teachers in this study perceived the collective efficacy of the individual faculty with whom they taught as neither overly positive nor negative.

### Research Objective 3: Describe the Differences among Teachers' Perceptions by Selected Demographic Characteristics

Research objective 3 sought to describe the differences among the beginning agriculture teachers with respect to the variables, efficacy for instructional practices, efficacy for student engagement, perceived principal support, and perceived collective efficacy. Analyses were conducted to compare the teachers with regards to demographic characteristics. These demographic characteristics included agricultural education teaching experience, gender, teacher certification status, and their association with an induction program.

A one-way Multivariate Analysis of Variance (MANOVA) revealed a significant multivariate main effect for years teaching agricultural education, Wilk's  $\lambda = .811$ ,  $F(16, 431.40) = 1.912$ ,  $p = .018$ ,  $\eta^2 = .051$  (Table 25). Given the significance of the overall test, univariate main effects were examined. A significant univariate main effect for years teaching agricultural education was obtained for efficacy for instructional practices,  $F(4, 144) = 5.17$ ,  $p = .001$ ,  $\eta^2 = .126$  (Table 26).

Table 25. Summary of MANOVA for Agricultural Education Teaching Experience of Beginning Agriculture Education Teachers in Missouri and Kansas

Effect	$\Lambda$	$F$	$df_1$	$df_2$	$p$	$\eta^2$
Teaching experience	.811	1.912	16	431.40	.018	.018

Table 26. Univariate Main Effect for Years Teaching Agricultural Education and Efficacy for Instructional Practices for Beginning Agriculture Education Teachers in Missouri and Kansas

Dependent Variable	$F$	$df_1$	$df_2$	$p$	$\eta^2$
Efficacy for Instructional Practices	5.17	4	144	.001	.126

Post hoc analyses to the univariate ANOVA included performing pairwise comparisons among years of experience (1-5). The results of these analyses indicated that the differences

existed within the efficacy for instructional practices sub-construct. Post hoc comparisons were made using Tukey's HSD. The results of this analysis revealed statistically significant differences in the mean scores of the efficacy for instructional practices sub-construct between teachers with three and four years teaching experience (Mean Difference = .65). These data can be found in Table 27.

Table 27. Tukey HSD Comparison for Efficacy for Instructional Practices Based Upon Years of Teaching Experience in Agricultural Education for Beginning Agriculture Teachers in Missouri and Kansas

Comparisons (Years of Experience)	<i>M</i> Difference	<i>SE</i>	<i>p</i>	95% CI	
				Lower Bound	Upper Bound
Year 3 vs. Year 4	-.65	.22	.03	-1.27	-0.32

#### **Research Objective 4: Relationships among Study Variables**

Research objective 4 sought to describe the relationships between the study variables teaching efficacy, perceived collective efficacy, preservice teacher education program quality, and principal support. Since the data were considered interval or higher level of measurement, Pearson product-moment coefficients were used to analyze the relationships between the variables.

The results of the Pearson product-moment correlations revealed statistically significant relationships among the selected variables. For those relationships that were statistically significant, the set of descriptors published by Davis (1971) were used to interpret the strength of the relationship: .01 - .09, Negligible association; .10 - .29, Low association; .30 - .49, Moderate association; .50 - .69 Substantial association; .70 or higher, Very strong association. It should be

noted that correlations including the preservice teacher education variable included an  $n = 166$  as fourteen teachers indicated they had not completed a preservice teacher education program, and thus, data was unavailable for those teachers. Low correlations were identified between principal support and preservice teacher education program quality ( $r = .153, n = 166, p = .048$ ), principal support and teaching efficacy ( $r = .173, n = 180, p = .022$ ), and principal support and perceived collective efficacy ( $r = .267, n = 180, p < .001$ ). Moderate correlations were identified between preservice teacher education program quality and perceived collective efficacy ( $r = .391, n = 166, p < .001$ ); and teaching efficacy and preservice teacher education program quality ( $r = .400, n = 166, p < .001$ ). A substantial correlation was identified between teacher efficacy and perceived collective efficacy ( $r = .513, n = 180, p < .001$ ). These data can be found in Table 28.

Table 28. Correlations Among the Study Variables Teaching Efficacy, Perceived Collective Efficacy, Teacher Preparation Program Quality, and Principal Support

Variable	Teaching Efficacy	Collective Efficacy	Preservice Education	Principal Support
Teaching Efficacy	1.00			
Collective Efficacy	.513 <sup>a</sup> ( $<.001$ )	1.00		
Preservice Education	.400 <sup>b</sup> ( $<.001$ )	.391 <sup>b</sup> ( $<.001$ )	1.00	
Principal Support	.173 <sup>c</sup> (.022)	.267 <sup>c</sup> ( $<.001$ )	.153 <sup>c</sup> (.048)	1.00

Note. <sup>a</sup> substantial association; <sup>b</sup> moderate association; <sup>c</sup> low association

### **Research Objective 5: Variance in Teaching Efficacy Explained by Selected Variables**

The fifth objective was to determine if selected study variables explained a significant portion of the variance in the teaching efficacy means of the beginning teachers. The variables used in this analysis were: perceived collective efficacy, teacher preparation program quality, and principal support.

It was determined that no excessive levels of multicollinearity existed in the regression model. All variables had tolerance levels above .19, and VIF values below 5.3 indicating multicollinearity did not exist in the model. Cohen's (1988) effect sizes descriptors for multiple regression was used to interpret the amount of variance explained in the model. Effect size was interpreted as follows: .0196-.1299 = small effect size, .1300-.2599 = medium effect size, and >.2600 = large effect size.

For the teaching efficacy model, perceived collective efficacy and teacher preparation program quality were the two significant explanatory variables ( $R^2 = .34$ ,  $p = <.001$ ). According to Cohen's (1988) standard for interpreting effect size, this is a large effect size. Table 29 shows the forward regression analysis for teaching efficacy. This indicates that 34% of the variance for perceived teaching efficacy of the beginning agricultural education teachers in the study was explained by the influence of the perceived collective efficacy of the faculty with whom they teach and their perceptions of their teacher preparation program.

Table 29. Forward Multiple Regression Analysis of Selected Variables on Teaching Efficacy for Beginning Missouri and Kansas Agriculture Teachers

Source	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>p</i>
Regression	33.65	2	16.83	42.10	< .001
Residual	65.14	163	.40		
Total	98.79	165			

<b>Variables in Equation</b>	<b><i>B</i></b>	<b><math>R^2</math></b>	<b>Cumulative <math>R^2</math></b>
Collective Efficacy	.46	.30	.30
Teacher Preparation Program	.22	.04	.34

<b>Variables not in Equation</b>	<b><i>t</i></b>	<b><i>p</i></b>
Principal Support	.14	.89

## **CHAPTER 5: SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS**

Chapter five will present a summary of the purpose and objectives of the study along with an overview of the methodology used to complete the study. In addition, a summary of the findings will be presented along with conclusions, recommendations, and further research suggestions.

### **Summary**

#### **Purpose and Research Questions**

The primary purpose of this study was to identify the perceived level of self-efficacy of beginning secondary agriculture teachers in Missouri and Kansas. In addition, this study sought to investigate factors that may explain variation among levels of beginning agriculture teachers' sense of teaching efficacy. Self-efficacy factors include support within the organization (principal), the teacher preparation program quality, and perceived collective efficacy of the organization. The following research objectives were addressed in this study:

1. What are the personal and demographic characteristics of beginning agriculture teachers in Missouri and Kansas during the 2012-2013 academic year? The selected characteristics were:
  - a. age,
  - b. gender,
  - c. ethnicity,
  - d. type of certification,
  - e. school size,
  - f. school setting, and
  - g. prior FFA or 4-H involvement.

2. What are the selected professional characteristics of beginning agriculture teachers?

The selected characteristics were:

- a. perceived teaching efficacy,
  - b. perceived teacher preparation program quality,
  - c. perceived principal support, and
  - d. perceived collective efficacy.
3. How do the selected professional characteristics of beginning agriculture teachers compare by the demographic variables of agricultural education teaching experience, gender, teacher certification status, and association with an induction program? The variables used in this analysis were:
    - a. perceived teaching efficacy,
    - b. perceived teacher preparation program quality,
    - c. perceived principal support, and
    - d. perceived collective efficacy.
  4. What relationships exist among the agriculture teachers' perceived teaching efficacy, perceived collective efficacy, perceived preservice teacher education program quality, and perceived principal support?
  5. Do perceived teacher preparation program quality, perceived principal support, and perceived collective efficacy explain a significant proportion of the variance of beginning agricultural education teachers' perceived teaching efficacy?

## **Methodology**

The target population for this research study was beginning Agricultural Education teachers in Missouri and Kansas. Beginning teachers were defined as those teachers who had completed no more than five years teaching Agricultural Education. The population of

beginning teachers in Missouri and Kansas was 213 (1<sup>st</sup> year,  $N=46$ ; 2<sup>nd</sup> year,  $N=49$ ; 3<sup>rd</sup> year,  $N=38$ ; 4<sup>th</sup> year,  $N=34$ ; 5<sup>th</sup> year,  $N=46$ ). Because this was a relatively small population, the researcher chose to conduct a census population study. Initial data collection took place between June 11 and July 1, 2013. Follow-up procedures were conducted to collect data from non-respondents until July 27. Of the 213 teachers eligible to participate in the study, 180 completed the data collection instrument.

The scale used to collect data regarding teaching efficacy was a modified version of the Teachers' Sense of Efficacy Scale-Short Form (TSES-SF) (Tschannen-Moran, & Woolfolk Hoy, 2001). The TSES-SF is a 12 item, 9-point Likert-type scale that measures teacher self-efficacy across three constructs: Efficacy in Student Engagement, Efficacy in Instructional Practices, and Efficacy in Classroom Management. Three changes were made to the TSES-SF to improve the readability of the instructions and efficacy statements and anchor title options.

The Principal Behavior Scale is a sub-test of the larger Organizational Climate Description Questionnaire for Secondary Schools (OCDQ-RS) (Hoy, Tarter, & Kottkamp, 2000). Within this larger instrument, this 4-point Likert-type sub-scale contained seven items and measures a teacher's perception of the principal's efforts to motivate teachers by using constructive criticism and setting an example by working hard; at the same time, the principal is helpful and genuinely concerned with the personal and professional welfare of the teachers.

The Collective Efficacy Scale – Short Form (CES-SF) (Goddard, 2002) was utilized to measure the collective efficacy of the teaching staff of each school where the beginning teachers were employed, as perceived by the beginning teachers. The CES-SF is a shortened version of Goddard, Hoy, and Woolfolk Hoy's (2000) Collective Efficacy Scale. The short form of the Collective Efficacy Scale contained 12 items with six response options and measured the shared

perceptions of teachers in a specific school that the efforts of the faculty will have positive effects on students (Goddard, 2002).

The Teacher Preparation Scale was developed based upon the National Quality Program Standards for Secondary (Grades 9-12) Agricultural Education established by The National Council for Agricultural Education (2009). This scale was developed to elicit data from the beginning teachers about how they perceived the preparation to teach they received from their preservice teacher education program and included 10 items in Likert-type format with five response choices.

The demographics section of the research instrument included 13 items. These items included gender, age, years teaching, ethnicity, college degree, school size, community description, agriculture education enrollment, FFA membership, number of agriculture teachers in the school where the beginning teacher teaches, community characteristics, and prior FFA and/or 4-H membership of the beginning teacher.

## **Summary of Findings**

### ***Research Objective 1: Selected Demographics of Study Participants.***

Research objective one sought to describe the demographics of the beginning Agricultural Education teachers in Missouri and Kansas namely: age, gender, ethnicity, type of teacher certification, school size, school setting, and prior FFA or 4-H involvement. Findings indicate that slightly more than half of the beginning agriculture teachers in Missouri and Kansas were women with an average age of 27. Ethnically, a majority (98.3%) identified themselves as non-Hispanic white. Ninety-six percent of the teachers indicated they were certified to teach agricultural education, either following a traditional route or an alternative method. The remaining teachers ( $N=7$ ) were in the process of completing certification to teach Agricultural Education. The average school where the teachers were employed enrolled 357 students and was

typically found in a rural area or a small town with a population less than 10,000 residents. Just under ninety percent of the teachers indicated they were associated with the FFA while they were in high school, while nearly 73% indicated membership in 4-H for at least one year as a child.

### ***Research Objective 2: Selected Characteristics of Beginning Agriculture Teachers***

Research objective two sought to describe the beginning agriculture teachers with respect to teaching efficacy, teacher preparation program quality, principal support, and perceived collective efficacy. The mean teaching efficacy score of the beginning teachers was 6.83 ( $SD = .80$ ). This mean score indicated the beginning teachers tended to be efficacious about their abilities to teach Agricultural Education. Additional analysis of the sub-constructs for teaching efficacy was also conducted. The beginning teachers tended to view themselves as less efficacious to engage students ( $M = 6.74$ ,  $SD = .89$ ) than their ability to incorporate a variety of instructional strategies ( $M = 7.01$ ,  $SD = .88$ ). Regarding their teacher preparation programs, the beginning teachers tended to agree that their programs prepared them well to address the issues they encountered while teaching. The beginning teachers tended to view their principals as supportive of them and their colleagues. The teachers indicated the most common supportive behavior displayed by their principals was one of setting an example by working hard. Finally, the beginning teachers tended to view their teaching colleagues as neither overly positive nor negative toward teaching.

### ***Research Objective 3: Describe the Differences Among First, Second, Third, Fourth, and Fifth Year Teachers***

Research objective three sought to describe the differences among the beginning teachers on the variables from Research Objective two. A significant multivariate effect was found for years teaching agricultural education. Specifically, this effect was found to significantly related to efficacy for instructional practices.

#### ***Research Objective 4: Relationships among Study Variables***

Research objective four sought to describe the relationships between the study variables teaching efficacy, perceived collective efficacy, preservice teacher education program quality, and principal support. As was expected, based upon prior research, these variable were all correlated at the  $p < .05$  level, or better. Low correlations were identified between principal support and perceived collective efficacy, teaching efficacy, and preservice teacher education program quality. Moderate correlations were identified between preservice teacher preparation program quality and perceived collective efficacy, and teaching efficacy and preservice teacher education program quality. A substantial correlation was found between perceived collective efficacy and teaching efficacy.

#### ***Research Objective 5: Variance on Teaching Efficacy Explained by Selected Study Variables***

Research Objective five sought to determine if selected study variables explained a significant portion of the variance in the teaching efficacy means of the beginning teachers. The variables included in the analysis were: perceived collective efficacy, teacher preparation program quality, and principal support. Forward multiple regression was employed to determine what factors and how they influenced the variance on the mean scores. Upon calculation of the regression model, it was determined that perceived collective efficacy and teacher preparation program quality explained 34% of the perceived teaching efficacy of the beginning agriculture teachers in the study.

### **Conclusions**

From the findings of this study it can be concluded that perceived collective efficacy, preservice teacher preparation program quality, and principal support are all interrelated and provide varying degrees of influence on the teaching efficacy of beginning agricultural education

teachers in Missouri and Kansas. How the beginning agriculture teachers perceived the faculty with whom they worked significantly impacts their beliefs about their own teaching. Tschannen-Moran, Woolfolk Hoy, and Hoy (1998) indicated collective efficacy's influence on teaching efficacy may be especially pronounced for beginning teachers. From a cultural context standpoint, perceived collective efficacy is the aspect most strongly related to teachers' sense of efficacy (Goddard, Hoy, & Woolfolk Hoy, 2004). Bandura (1997) noted people working independently within a larger group are influenced by those around them. Coleman (1990) further suggested that social norms within an organization develop in order for members of the organization to influence the actions of others in the group especially when the consequences of those actions impact the collective whole.

The quality of the preservice teacher education program completed by beginning agriculture teachers significantly influences their personal teaching efficacy beliefs. Ross (1992) indicated teachers' sense of efficacy increased after participating in learning activities that improved teaching skills. Participation in teacher preparation programs provide authentic teaching opportunities for preservice teachers, which beginning teachers can reflect upon as prior experiences thus, providing a foundation for efficacy beliefs. Darling-Hammond et al (2002) indicated teachers who felt better prepared were more likely to believe they could teach all students to high levels.

However, the concept of principal support and its relationship with teaching efficacy is mixed, at best, when compared to the relationships of collective efficacy and teacher preparation with teaching efficacy. Tschannen-Moran and Woolfolk Hoy (2001) indicated teachers who reported greater teaching efficacy beliefs tended to do so when they perceived more effective principal support. Conversely, as Tschannen-Moran and Woolfolk Hoy (2007) pointed out,

teachers are going to form personal beliefs about their teaching abilities whether there is support from an administrator or not.

Contrary to what conventional wisdom or anecdotal evidence may suggest, overall teaching efficacy beliefs do not change as teachers gain years of agricultural education teaching experience. Tschannen-Moran and Woolfolk Hoy (2006) reported if self-efficacy beliefs tend to be fairly stable once set, years of teaching experience would not necessarily improve the perceptions of those teachers toward their teaching abilities. But, on the other hand, within the sub-constructs of teaching efficacy differences were detected in this study. Specifically, fourth year teachers were more efficacious than third year teachers regarding their instructional practices. As such, this may imply that teaching efficacy is better evaluated and investigated on a sub-construct level rather than as a whole.

Like agricultural education teaching experience, the gender demographic does not have an influence on the overall teaching efficacy of beginning agricultural education teachers in Missouri and Kansas. Supporting this, Tschannen-Moran, Woolfolk and Hoy (2006) reported that demographic variables, including gender, have typically not been strong predictors of teaching efficacy beliefs. Imants and DeBrabander (1996) also indicated beginning males and female teachers were nearly identical in their teaching efficacy beliefs.

Beginning agricultural education teachers in Kansas and Missouri view their principals as supportive. The principal is responsible for fostering a supportive and productive atmosphere (Hoy, Tarter, & Wiskoski, 1992). Furthermore, a supportive principal has been found to be a predictor of school effectiveness (Hoy, Tarter, & Wiskoskie, 1992), and has been associated with collective efficacy (Goddard & Goddard, 2001), which has been linked to teaching efficacy (Pajares, 2002a). However, teaching efficacy is not solely based upon principal support

Tschannen-Moran and Woolfolk Hoy (2007). Therefore, although principal support is a necessary component of a quality work environment, it is not necessarily a significant influence on which beginning teachers base their efficacy beliefs.

## **Recommendations**

It has been suggested that a potential solution to the teacher shortage issue facing agricultural education may be supporting beginning teachers to increase their perceptions about their abilities to teach. This belief is not necessarily unfounded. Burley et al (1991) documented that teachers who were more efficacious about their teaching abilities remained in the profession longer than their less efficacious counterparts. So far, engaging beginning teachers in professional development programs focused on agricultural education topics and mentoring relationships have been the profession's most valid attempt to address this challenge. These programs provide opportunities for beginning teachers to further develop their skills through vicarious and mastery experiences, which as Bandura (1997) noted, are sources of efficacy beliefs. However, as found in this study, with the influence collective efficacy has upon beginning teachers' perceptions of their own teaching efficacy, a new model for teaching efficacy development is recommended. Through the use of collective efficacy building programs for faculty a more confident academic atmosphere can be created which will, inherently, support beginning teachers and influence positive efficacy beliefs. Building instructional knowledge and skills of all faculty, creating opportunities for faculty to share skills and experiences through collaboration, providing actionable feedback on teachers' performance, and involving teachers in school wide decision making are known to build collective efficacy and are suggested as foundation actions for all collective efficacy building programs (Brinson & Steiner, 2007).

Agricultural education, by its own admission, is a profession that “eats its young” (Halford, 1998, p. 38), which may lead one to believe agricultural education is its own worst enemy. With that in mind, if the perceived collective efficacy of a specific school can influence the teaching efficacy of beginning agriculture teachers, what influence does the collective efficacy of an entire profession have on the efficacy beliefs of its early career professionals? Using this question as a catalyst, it is recommended that an analysis of the collective efficacy of the agricultural education profession be conducted. The results of this analysis may reveal the sources of the beliefs that continue to drive the cannibalistic nature of the profession. In turn, documentation of these beliefs will serve as a foundation for the development of future programs designed to continually improve the overall collective efficacy beliefs of the members of the agricultural education community. It should be a goal of these programs to aid in the creation of a profession that supports and nurtures its young, rather than abandoning them.

The Teachers’ Sense of Efficacy Scale (TSES) (Tschannen-Moran, & Woolfolk Hoy, 2001) was used as the foundation to collect data regarding the teaching efficacy beliefs of the beginning agriculture teachers, in not only this study, but numerous other studies in agricultural education. Although this instrument provided important data for this study, it does have serious limitations, especially when considering the roles and responsibilities of agricultural education teachers. Therefore, it is recommended that an agriculture teachers’ sense of efficacy scale be developed and refined that builds upon the Teachers’ Sense of Efficacy Scale to include sub-constructs specific to agricultural education, including Supervised Agricultural Experience (SAE) programs, FFA, and agriculture laboratory instruction and maintenance.

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# **APPENDIX A: NCATE STANDARDS FOR TEACHER PREPARATION PROGRAMS**

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## **NCATE Standards**

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### **1. Candidate Knowledge, Skills, and Professional Dispositions**

Candidates preparing to work in schools as teachers or other school professionals know and demonstrate the content knowledge, pedagogical content knowledge and skills, pedagogical and professional knowledge and skills, and professional dispositions necessary to help all students learn. Assessments indicate that candidates meet professional, state, and institutional standards.

### **2. Assessment System and Unit Evaluation**

The unit has an assessment system that collects and analyzes data on applicant qualifications, candidate and graduate performance, and unit operations to evaluate and improve the performance of candidates, the unit, and its programs.

### **3. Field Experiences and Clinical Practice**

The unit and its school partners design, implement, and evaluate field experiences and clinical practice so that the teacher candidates and other school professionals develop and demonstrate the knowledge, skills, and professional dispositions necessary to help all students learn.

### **4. Diversity**

The unit designs, implements, and evaluates curriculum and provides experiences for candidates to acquire and demonstrate knowledge, skills, and professional dispositions necessary to help all students learn. Assessments indicate that candidates can demonstrate and apply proficiencies related to diversity. Experiences provided for candidates include working with diverse populations, including higher education and P-12 school faculty, candidates, and students in P-12 schools

### **5. Faculty Qualifications, Performance, and Development**

Faculty are qualified and model best professional practices in scholarship, service, and teaching, including the assessment of their own effectiveness as related to candidate performance; they also collaborate with colleagues in the disciplines and schools. The unit systematically evaluates faculty performance and facilitates professional development.

## 6. Unit Governance and Resources

The unit has the leadership, authority, budget, personnel, facilities, and resources, including information technology resources, for the preparation of candidates to meet professional, state, and institutional standards.

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Note. Adapted from “*Professional Standards for the Accreditation of Teacher Preparation Institutions*,” (2008) . Washington D. C.: National Council for Accreditation of Teacher Education.

## APPENDIX B: AAAE NATIONAL STANDARDS FOR TEACHER EDUCATION IN AGRICULTURE

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### AAAE Standards

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#### Conceptual Framework

**Standard 1:** The design, implementation, and evaluation of an agricultural education teacher preparation program reflect a dynamic conceptual framework, grounded in experience-based knowledge developed with input by all stakeholders. The conceptual framework establishes the vision for the agricultural education teacher preparation program to prepare teachers to work effectively in schools.

Expectations:

- 1a. The conceptual framework, harmonious with the institutional teacher preparation mission and goals, has been communicated to preservice teachers, public school administrators, teachers, and teacher educators.

Sample Indicators/Evidence:

- 1.a.1. The conceptual framework is related to the institutional mission statement.  
1.a.2. The conceptual framework is explained and demonstrated in activities of the program and documented through copies of letters, meeting notes, student records, handbooks, etc.

- 1b. The conceptual framework of the program is in alignment with processes, expected outcomes and realities of teaching community-based agricultural education.

Sample Indicators/Evidence: The program policies, procedures, needs assessments, advisory and other stakeholder meeting notes, practice, and/or other documents indicate that

- 1.b.1. Identified outcomes of the program are linked with conceptual framework components.  
1.b.2. A clear linkage exists between the conceptual framework and contemporary issues in the field (problems of practice).

- 1c. The conceptual framework is enhanced through periodic stakeholder review.

Sample Indicators/Evidence:

- 1.c.1. An advisory committee reviews the relevance and application of the conceptual framework as evidenced through meeting minutes and other meeting notes.  
1.c.2. Documentation is provided to clearly show that preservice student and teacher input is used to annually review the conceptual framework.

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- 1d. The conceptual framework provides for the needs of life-long learners.

Sample Indicators/Evidence:

1.d.1. Needs assessment documentation, meeting/discussion notes, focus group transcripts, and/or other documents indicate that the conceptual framework seeks input from teachers in the field, on an annual basis, to identify continuing education needs.

1.d.2. Comparisons of conceptual frameworks, developed over time, clearly show that the input of life-long learners is used to enhance the preservice program.

- 1e. The conceptual framework is used as the benchmark to evaluate proposed changes to the program.

Sample Indicators/Evidence:

1.e.1. A review committee evaluates proposed changes to the program using the conceptual framework as evidenced by minutes, meeting notes, transcripts and/or other documents.

1.e.2. Impacts to the program are considered beyond the proposed changes (e.g., certification requirements, credit load balance, emerging issues) as evidenced by minutes, meeting notes, transcripts and/or other documents.

- 1f. The conceptual framework encourages and facilitates rather than restricts students to complete the preservice requirements in agricultural education in agreement with the teacher education program's institutional mission (e.g., BS degree, 5<sup>th</sup> year program, certification programming).

Sample Indicators/Evidence:

1.f.1. Departmental policies, handbooks, recruitment plans, and/or other documentation clearly indicate the sequential nature of the teacher preparation program.

1.f.2. Entry requirements for the agricultural teacher education program are related to teacher performance and are consistent with the professional education unit of the institution as evidenced by the application package and records of admission decisions.

## **Category I: CANDIDATE PERFORMANCE**

### **Sub-Category: Curriculum Components**

**Standard 2:** The design of the agricultural education teacher preparation program ensures that students complete a balanced program of general education, technical contents, and pedagogical and professional studies.

**Expectation 2a:**      **General Education**

- 2a. The program provides for teacher education candidates to complete general courses in the liberal arts and sciences that develop theoretical and practical understandings.
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Sample Indicators/Evidence:

- 2.a.1. General education includes the arts, communications, history, literature, mathematics, philosophy, sciences, and the social sciences as evidenced by program requirements.
- 2.a.2. General education constitutes approximately one-third of the total program hours required for teacher licensure or certification.
- 2.a.3. Teacher candidates attain a minimum GPA in overall coursework consistent with institutional certification standards within the professional education unit.

**Expectation 2b:**      *Professional and pedagogical knowledge*

- 2b. The program provides for teacher candidates to acquire and develop the pedagogical and professional understandings and skills needed to work with all students.

Sample Indicators/Evidence: Written program requirements, students' individual summaries of record and transcripts, course catalogs, and other documents clearly indicate that

- 2.b.1. Pedagogical and professional instruction related to agricultural education includes coursework and/or experiences in
- ✓ Social, historical, and philosophical foundations of education and career/technical education to include the impact of technological and societal changes on schools;
  - ✓ School law and educational policy;
  - ✓ Program planning in agricultural education;
  - ✓ Curriculum development and analysis;
  - ✓ Coordination of Supervised Agricultural Experience programs;
  - ✓ Coordination of National FFA Organization activities;
  - ✓ Professional ethics;
  - ✓ Classroom and laboratory teaching methods (e.g. problem-solving, inquiry/discovery);
  - ✓ Career development (portfolios, interviewing, and placement);
  - ✓ Student performance assessment;
  - ✓ Serving learners with exceptionalities;
  - ✓ Inquiry and research; and
  - ✓ Instructional uses of technology.
- 2.b.2. Teacher candidates attain a minimum GPA in professional and pedagogical coursework consistent with institutional certification standards within the professional education unit.
- 2.b.3. Professional and pedagogical coursework constitutes approximately one-third of the total program hours as identified by the state agency responsible for teacher licensure or certification. This is evidenced by program requirements and/or other documents.
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- 2c. Programs are designed so that teacher candidates attain competence in basic principles, concepts, and experiential practices in agricultural science and natural resources related to
- A. Business, Management, and Economic Systems
  - B. Agricultural and Mechanical Systems
  - C. Plant, Animal, and Food Systems
  - D. Natural Resources and Environmental Systems

With proficiency or advanced competence in at least one of the areas.

Sample Indicators/Evidence: Written program requirements, course catalogs, and other documents clearly indicate that

- 2.c.1. Technical subject matter constitutes approximately one-third of the total hours required for program completion.
- 2.c.2. Teacher candidates attain a minimum GPA in technical subject matter courses consistent with institutional certification standards within the professional education unit.
- 2.c.3. Teacher candidates acquire minimum state requirements in technical work experience for teacher licensure or certification as verified by program records.
- 2.c.4. Teacher candidates acquire advanced competence in at least one of the content areas of agriculture as evidenced by advanced course standing.

## **CATEGORY I: CANDIDATE PERFORMANCE**

**Standard 3:** The agricultural education teacher preparation program recruits, admits, and retains an adequate supply of quality students who demonstrate potential for professional success in the agricultural education community.

Expectations:

3a. A plan is activated to recruit, admit, and retain a diverse student population in agricultural teacher education.

Sample Indicators/Evidence:

- 3.a.1. A recruitment plan is developed, is on file, and actively used to identify prospective students from diverse backgrounds.
- 3.a.2. Scholarships and other incentives are available to attract and retain a student population based on the diversity of the region served by the program.
- 3.a.3. The program faculty review teacher education admission criteria on a periodic basis as evidenced by meeting notes, minutes, or other records.
- 3.a.4. The recruitment plan is annually reviewed and revised.
- 3.a.5. The program maintains records of applications, teacher education admissions, and program completers.

3b. The program monitors and assesses the progress of its students by providing appropriate advising from admission through induction into the teaching profession.

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Sample Indicators/Evidence:

- 3.b.1. Students have a plan of study on file.
- 3.b.2. Student assessments are based on multiple data sources, (e.g., GPAs, portfolios, observations, and videotapes of clinical teaching experiences).
- 3.b.3. Students are monitored and advised throughout all stages of their programs, and based on criteria for admission into teacher education.
- 3.b.4. Assistance and remediation are available to students who are not making satisfactory progress.
- 3.b.5. Criteria are consistent with the department/program area's conceptual framework for students' eligibility for professional internships.
- 3.b.6. Student placements are tracked through initial placement.
- 3.b.7. Faculty and staff serve as resource persons through teacher induction.

## **CATEGORY II: UNIT CAPACITY**

### **Sub-Category: Delivery (Quality Instruction)**

**Standard 4:** Teaching in the agricultural education teacher preparation program is of high quality, consistent with the program's conceptual framework, and reflects knowledge derived from research and sound educational practice.

Expectations:

4a. Faculty use a variety of effective instructional strategies that reflect an understanding of different models and approaches to learning. (e.g. models, strategies, or approaches include, but are not limited to problem-solving, experiential learning, constructivism, inquiry, microteaching, reflective teaching, and effective use of emerging technologies).

Sample Indicators/Evidence:

- 4.a.1. Course syllabi, lesson plans and assessments indicate regular use of instructional strategies consistent with accepted theory and sound educational practices.
  - 4.a.2. Samples of student journals, portfolios, and other assessments show evidence of different models and approaches to teaching and learning.
  - 4.a.3. Candidates engage in concrete and vicarious experiences in clinical and laboratory contexts (e.g., microteaching, reflective teaching, and observations) as evidenced by their journals, portfolios, and other artifacts.
  - 4.a.4. Faculty model appropriate technologies in a variety of instructional settings.
- 4b. Agricultural education faculty instruction encourages the development of reflection, higher order thinking, and professional disposition of teacher candidates.

Sample Indicators/Evidence:

- 4.b.1. Faculty gather a variety of evidence to assess students' abilities to reflect through written compositions and oral expressions (e.g., process portfolios, journals, self-assessment of microteachings).
  - 4.b.2. All candidates develop a personal philosophy of education that is kept on file in the program; opportunities are provided for reflection and revision of the
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- philosophy during the course of the student's program.
- 4.b.3. Candidates are student members in professional/student organizations and participate in professional development activities as documented by student membership rolls, meeting minutes, or travel records, etc.

4c. Faculty instruction is systematically evaluated with the results used to improve the quality and effectiveness of instruction.

Sample Indicators/Evidence:

- 4.c.1. Faculty use appropriate evaluation techniques to improve instruction as evidenced by summaries of evaluations, course syllabi, and faculty notes.
- 4.c.2. Documentation is provided to show that faculty use peer assessment(s) to improve instruction on a periodic basis.
- 4.c.3. Faculty continuously engage in professional development opportunities to improve their instruction on an ongoing basis as evidenced by travel records, faculty notes, and other documents.

## **CATEGORY II: UNIT CAPACITY**

### **Sub-Category: Delivery (Quality Field Experiences)**

**Standard 5:** The agricultural education teacher preparation program ensures that field experiences are of high quality, consistent with the program's conceptual framework, and are well planned and sequential.

Expectations:

5a. Early field experiences include a minimum of 40 student contact hours in diverse school-based agricultural education programs.

Sample Indicators/Evidence:

- 5.a.1. Plans and records indicate that early field experience placements are made in schools that reflect the diversity of the state and region.
- 5.a.2. Early field experiences provide preservice students with the opportunity to observe the intra-relationship among instruction, FFA, and SAEs as evidenced by reflection, journaling, and completion of a structured program of experience.
- 5.a.3. Early field experiences are supervised by individuals with teaching experience in agricultural education.

5b. The teaching internship experience consists of a minimum of 10 complete weeks of student teaching, or its equivalent, in a successful and diverse agricultural education program.

Sample Indicators/Evidence:

- 5.b.1. Placement plans describe selection criteria of teaching internship sites. Records indicate that the program selects field experiences, including teaching internships, to provide candidates with opportunities to
- 5.b.1.1. Apply principles and theories from the conceptual framework to actual practice in classrooms and schools where diverse agricultural education programs have demonstrated success in integrating
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instruction, Supervised Agricultural Experience, and FFA;  
5.b.1.2.Study and practice in a community with diverse student populations (students of different ages, cultures, and abilities).

- 5.b.2. Teaching internships encourage reflection by candidates and feedback from agricultural education faculty, school faculty, and peers as evidenced by written course expectations, and samples of journals, portfolios, and other documents.
- 5.b.3. Teaching internship experiences include significant intensity and duration of classroom instruction, supervision of student agricultural experience programs, and supervision of FFA activities to demonstrate initial agricultural education teacher competence as evidenced by written course expectations, and samples of journals, portfolios, and other documents.

5c. Teaching interns are supervised by agricultural education faculty.

## **CATEGORY II: UNIT CAPACITY**

### **Sub-Category: Community**

**Standard 6:** The agricultural education teacher preparation program collaborates with stakeholders to provide an effective and dynamic preservice teacher education program for preparing agricultural educators.

#### Expectations:

6a. The program interacts with a diverse group of stakeholders.

#### Sample Indicators/Evidence:

- 6.a.1. The program interacts regularly with stakeholders including, but not limited to staff of national- and state-level units of education; staff and administration of units within higher education institutions; agricultural business and industry representatives; leaders and administrators of professional agricultural education organizations; program alumni; government agency personnel; and students as evidenced by meeting minutes, focus group transcripts, letters, and other documents.
  - 6.a.2. Documented records of involvement by program personnel show intent and practice of engagement with various stakeholders in the professional and immediate geographical community (boards, committees, task force proceedings, etc.).
  - 6.a.3. Program personnel attend professional meetings with stakeholders and others as evidenced by travel records, meeting minutes and other documentation.
- 6b. An advisory committee provides input regarding the planning, assessment, and promotion of the agricultural education teacher preparation program.

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Sample Indicators/Evidence:

- 6.b.1. Members are selected from stakeholder groups, traditional and nontraditional (i.e., elementary education), as evidenced by records.
- 6.b.2. Records or other documents of annual meetings and activities, including agendas, attendees, and accomplishments and/or recommendations are kept on file.
- 6.b.3. The program uses the American Association for Agricultural Education National Standards for Agricultural Teacher Education Program Improvement to direct program improvement efforts.

6c. Agreements with schools, cooperating teachers and agencies; professional organizations; and others indicate that (a) field experiences and teaching internships are designed and implemented in concert, (b) teaching interns are supported in their achievement of desired outcomes, and (c) cooperating teachers receive ample training for assisting, coaching, and mentoring the preservice teacher or intern.

Sample Indicators/Evidence:

- 6.c.1. Agreement forms reflect current expectations of the program and field experience sites, as well as state requirements as evidenced by meeting notes, letters, needs assessment documents, and other items.
- 6.c.2. The program maintains a file of documented teaching intern and cooperating teacher evaluations and/or testimonials relating to program activities.
- 6.c.3. Samples of student portfolios and other documents provide evidence of the quality of the field and internship experiences.

6d. Program personnel are an integral part of the agricultural education leadership team (state, regional, and national).

Sample Indicators/Evidence:

- 6.d.1. Personnel actively serve and provide leadership on committees of the professional organizations as evidenced by records, meeting minutes, curriculum vitae, etc.
- 6.d.2. Personnel regularly participate in meetings and activities (e.g., advisory committees, task force teams, and inservice activities) as evidenced by meeting minutes and other records.
- 6.d.3. Personnel provide leadership to agricultural education teachers and other related stakeholder groups.

## **CATEGORY II: UNIT CAPACITY**

### **Sub-Category: Diversity**

**Standard 7:** The agricultural education teacher preparation program demonstrates and promotes an ongoing commitment to diversity.

Expectations:

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7a. The faculty and staff of the program represent the diversity of the region/area served by the

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program.

Sample Indicators/Evidence:

- 7.a.1. A plan is on file and actively used in identifying and hiring prospective faculty/staff candidates who a) are members of underrepresented populations (gender and race); b) have different experiences, expertise, and talents; and c) possess different philosophical perspectives.
  - 7.a.2. Documentation is provided to show appropriate measures (e.g., social support, special mentoring programs, incentives) that are available to attract, hire, and retain diverse faculty and staff.
  - 7.a.3. Evidence is provided to show that the plan is reviewed and revised on a regular basis, particularly with each new search/hire.
- 7b. A plan is in place to recruit, admit, and retain a diverse student population.

Sample Indicators/Evidence:

- 7.b.1. A plan is on file and actively used in recruiting and maintaining a diverse student body.
  - 7.b.2. Appropriate measures (e.g., social support, special mentoring programs, scholarships, and other incentives) are available to attract and retain a diverse student population.
  - 7.b.3. Evidence is provided to show that the recruitment plan is reviewed and revised annually.
  - 7.b.4. The program maintains records of applications and enrollment decisions.
- 7c. The curriculum, field experiences, and other activities provide both faculty and students with opportunities to interact with individuals of diverse backgrounds.

Sample Indicators/Evidence:

- 7.c.1. Course syllabi and requirements, student journals, portfolios, and other documentation evidence student reflections about and sensitivity toward diversity.
- 7.d.1. The program encourages preservice and inservice activities that support and/or promote an awareness of diversity.
- 7.d.2. Curriculum and instructional materials present the agricultural industry as a career opportunity for all individuals.

## **CATEGORY II: UNIT CAPACITY**

**Standard 8:** Agricultural education teacher preparation faculty demonstrate scholarship in their teaching, inquiry, and outreach roles.

Expectations:

- 8a. All faculty have an earned doctorate in agricultural education or a closely related field.

Sample Indicators/Evidence:

- 8.a.1. Curriculum vitae and transcripts are on file.
- 
- 8b. Agriculture teacher education faculty are committed to scholarly teaching, inquiry, and

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outreach.

Sample Indicators/Evidence:

- 8.b.1. Faculty hires have demonstrated excellence in teaching in school-based settings at the middle and/or secondary levels. This is evidenced by references, peer reviews, recommendations, and/or documentation of their students' achievements.
- 8.b.2. Faculty are knowledgeable about and integrate technology into their teaching as evidenced by course syllabi, course descriptions, samples of student portfolios and assignments, and websites, etc.
- 8.b.3. Faculty are knowledgeable and experienced in teaching and learning, cultural differences, and exceptionalities as evidenced by curriculum vitae, course syllabi, and other documentation.
- 8.b.4. Dissertation and/or graduate advisors are competent in the candidate's research topic and/or methodology as evidenced by faculty research agendas, publication records, courses taught, and other artifacts.
- 8.b.5. Faculty have had at least three years of successful teaching experience in agricultural education prior to their faculty appointments.
- 8.b.6. Faculty engage in school-based field experiences (e.g. classroom instruction, student teaching supervision, action research, classroom observations, FFA/4-H leadership activities) as evidenced by departmental records.

8c. Faculty engage in ongoing professional development in critical and emerging issues in education for the purpose of updating program components and instruction.

Sample Indicators/Evidence:

- 8.c.1. Emerging issues (youth development, ethics, equality, and diversity, etc.) are proactively addressed by faculty in content and pedagogy as evidenced by unit and lesson plans, syllabi, and other artifacts.

8d. Faculty are actively involved in professional activities.

Sample Indicators/Evidence:

- 8.d.1. Agricultural teacher education faculty provide leadership in professional associations at the local, state, and national levels.
- 8.d.2. Faculty participate in the decision-making processes (e.g., committees, task forces, ad hoc committees) of professional associations at the local, state, and national levels as evidenced by meeting minutes, agendas, and other records.

8e. Faculty appointments, including off-campus and distance teaching, allow personnel to be involved in scholarly teaching, inquiry, and outreach activities.

Sample Indicators/Evidence:

- 8.e.1. Realistic workloads and assignments facilitate faculty involvement in scholarly teaching, inquiry, and outreach; including working in schools, curriculum development, advising, administration, institutional committees, etc.
  - 8.e.2. The load for faculty teaching each semester does not exceed 12 semester/quarter hours for undergraduate courses or nine semester/quarter hours for graduate
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courses or an appropriate proportion for a combination of undergraduate and graduate courses.

- 8.e.3. Determination of faculty teaching load considers, but is not limited to factors such as class size, number of preparations, and research and outreach responsibilities as evidenced by written program policies and procedures.
- 8.e.4. Faculty workload is adjusted to accommodate student teaching supervision as evidenced by written program policies and procedures.
- 8.e.5. Faculty workload is adjusted to allow for research and development projects as evidenced by written policies and procedures.

8f. Systematic and comprehensive activities enhance the competence and intellectual vitality of the professional education faculty.

Sample Indicators/Evidence:

- 8.f.1. Faculty are encouraged to be continuous learners through program policies, culture, and practices.
- 8.f.2. Faculty are regularly involved in professional development activities as evidenced by annual faculty appraisals.
- 8.f.3. Periodic faculty evaluations are used to improve teaching, inquiry, and outreach as evidenced by program records.
- 8.f.4. The program provides mentoring for new faculty as evidenced by written policies and procedures.
- 8.f.5. The program promotes and supports regular sabbatical and study leaves consistent with institutional policies as evidenced by records, faculty files, etc.

## **CATEGORY II: UNIT CAPACITY**

**Standard 9:** The agricultural education teacher preparation program has sufficient resources to prepare successful teachers of agriculture.

Expectations:

9a. Sufficient human resources exist for the program to provide a quality educational experience for candidates.

Sample Indicators/Evidence:

- 9.a.1. A minimum of two tenure track FTEs is dedicated to the preservice teacher education program.
- 9.a.2. Faculty to student ratios are consistent with the average for the institution.
- 9.a.3. Adequate support staff are assigned to the program at a ratio consistent with the average for the institution.
- 9.a.4. All individuals with supervisory responsibility for agricultural education students receive appropriate training.

9b. The program has sufficient facilities to conduct an effective teacher education program.

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Sample Indicators/Evidence:

- 9.b.1. Dedicated classroom and laboratory facilities to simulate a model middle school or high school environment are available for use by the program.
- 9.b.2. Instructional equipment includes current teaching technologies and is available for use in the program.
- 9.b.3. Space is provided for the program administrative faculty, support staff, and graduate student offices; storage areas (resource materials and instructional equipment); workroom (preparation areas; Internet and other web-based resource materials); and a reference room/library.

9c. The program has a broad range of support systems for faculty and students.

Sample Indicators/Evidence:

- 9.c.1. Adequate funding supports faculty salaries (competitive in the market), operating expenses (supplies and materials), travel for supervision of teaching interns, professional development, and cooperating teacher stipends (where applicable).
- 9.c.2. Resource materials are available for faculty and student use including, but not limited to curriculum guides/lesson plans, texts and reference books, resource materials, Internet access, and extension publications.
- 9.c.3. The program facilitates placement of successful graduates, including but not limited to available teaching positions.

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Note. Adapted from “*American Association for Agricultural Education, National Standards for Teacher Education in Agriculture,*” (2001). American Association for Agricultural Education.

## APPENDIX C: RESEARCH INSTRUMENT

### Early Career Agriculture Teachers Experiences<br>

**1. At the conclusion of the 2012-2013 school year have you completed 6 or more years teaching Agricultural Education?**

☐ Yes

☐ No

## Early Career Agriculture Teachers Experiences<br>

### Principal Behavior

Please check the number that best represents the extent to which each statement characterizes your principal.

**1. The principal sets an example by working hard.**

- ☐ Rarely Occurs  
☐ Sometimes Occurs  
☐ Frequently Occurs  
☐ Very Frequently Occurs

**2. The principal compliments teachers.**

- ☐ Rarely Occurs  
☐ Sometimes Occurs  
☐ Frequently Occurs  
☐ Very Frequently Occurs

**3. The principal goes out of the way to help teachers.**

- ☐ Rarely Occurs  
☐ Sometimes Occurs  
☐ Frequently Occurs  
☐ Very Frequently Occurs

**4. The principal explains the reason for criticism to teachers.**

- ☐ Rarely Occurs  
☐ Sometimes Occurs  
☐ Frequently Occurs  
☐ Very Frequently Occurs

**5. The principal is available after school to help teachers when assistance is needed.**

- ☐ Rarely Occurs  
☐ Sometimes Occurs  
☐ Frequently Occurs  
☐ Very Frequently Occurs

## Early Career Agriculture Teachers Experiences<br>

### 6. The principal uses constructive criticism.

- ☐ Rarely Occurs
- ☐ Sometimes Occurs
- ☐ Frequently Occurs
- ☐ Very Frequently Occurs

### 7. The principal looks out for the personal welfare of the faculty.

- ☐ Rarely Occurs
- ☐ Sometimes Occurs
- ☐ Frequently Occurs
- ☐ Very Frequently Occurs

## Early Career Agriculture Teachers Experiences<br>

### Teacher Preparation

**1. Have you completed a teacher education program in Agricultural Education at the undergraduate or graduate level that included a student teaching experience?**

☐ Yes

☐ No

## Early Career Agriculture Teachers Experiences<br>

### Teacher Preparation

Please check the answer that best describes how well your teacher education program prepared you to teach Agricultural Education in each of the following areas.

My teacher preparation program prepared me to...

**1. Deliver curriculum in an integrated model that incorporates classroom and laboratory instruction, experiential learning, and leadership & personal development.**

- ☐ Not At All
- ☐ Somewhat
- ☐ Adequately
- ☐ Well
- ☐ Very Well

**2. Coordinate year-round instruction integrating classroom & laboratory instruction, experiential learning, and leadership & personal development.**

- ☐ Not At All
- ☐ Somewhat
- ☐ Adequately
- ☐ Well
- ☐ Very Well

**3. Provide students with opportunities for the development and application of knowledge and skills.**

- ☐ Not At All
- ☐ Somewhat
- ☐ Adequately
- ☐ Well
- ☐ Very Well

## Early Career Agriculture Teachers Experiences<br>

### 4. Assess student learning.

- ☐ Not At All
- ☐ Somewhat
- ☐ Adequately
- ☐ Well
- ☐ Very Well

### 5. Manage student supervised agricultural experience programs.

- ☐ Not At All
- ☐ Somewhat
- ☐ Adequately
- ☐ Well
- ☐ Very Well

### 6. Motivate students to participate in FFA programs and activities.

- ☐ Not At All
- ☐ Somewhat
- ☐ Adequately
- ☐ Well
- ☐ Very Well

### 7. Create and foster school and community partnerships to assist in developing and supporting the agriculture education program.

- ☐ Not At All
- ☐ Somewhat
- ☐ Adequately
- ☐ Well
- ☐ Very Well

## Early Career Agriculture Teachers Experiences<br>

**8. Market the agricultural education program to community stakeholders.**

- ☐ Not At All
- ☐ Somewhat
- ☐ Adequately
- ☐ Well
- ☐ Very Well

**9. Pursue professional growth through continued participation in professional development.**

- ☐ Not At All
- ☐ Somewhat
- ☐ Adequately
- ☐ Well
- ☐ Very Well

**10. Utilize advisory councils to determine areas for program improvement.**

- ☐ Not At All
- ☐ Somewhat
- ☐ Adequately
- ☐ Well
- ☐ Very Well

## Early Career Agriculture Teachers Experiences<br>

### Collective Efficacy

Please indicate your level of agreement with of the following statements about your school.

**1. Teachers are able to get through to the most difficult students.**

- ☐ Strongly Disagree
- ☐ Disagree
- ☐ Somewhat Disagree
- ☐ Somewhat Agree
- ☐ Agree
- ☐ Strongly Agree

**2. Teachers are confident they will be able to motivate their students.**

- ☐ Strongly Disagree
- ☐ Disagree
- ☐ Somewhat Disagree
- ☐ Somewhat Agree
- ☐ Agree
- ☐ Strongly Agree

**3. If a child doesn't want to learn, teachers give up.**

- ☐ Strongly Disagree
- ☐ Disagree
- ☐ Somewhat Disagree
- ☐ Somewhat Agree
- ☐ Agree
- ☐ Strongly Agree

## Early Career Agriculture Teachers Experiences<br>

### 4. Teachers don't have the skills needed to produce meaningful student learning.

- ☐ Strongly Disagree
- ☐ Disagree
- ☐ Somewhat Disagree
- ☐ Somewhat Agree
- ☐ Agree
- ☐ Strongly Agree

### 5. Teachers believe that every child can learn.

- ☐ Strongly Disagree
- ☐ Disagree
- ☐ Somewhat Disagree
- ☐ Somewhat Agree
- ☐ Agree
- ☐ Strongly Agree

### 6. Students come to school ready to learn.

- ☐ Strongly Disagree
- ☐ Disagree
- ☐ Somewhat Disagree
- ☐ Somewhat Agree
- ☐ Agree
- ☐ Strongly Agree

### 7. Students' home life provides so many advantages that students are bound to learn.

- ☐ Strongly Disagree
- ☐ Disagree
- ☐ Somewhat Disagree
- ☐ Somewhat Agree
- ☐ Agree
- ☐ Strongly Agree

## Early Career Agriculture Teachers Experiences<br>

### 8. Students just aren't motivated to learn.

- ☐ Strongly Disagree
- ☐ Disagree
- ☐ Somewhat Disagree
- ☐ Somewhat Agree
- ☐ Agree
- ☐ Strongly Agree

### 9. Teachers do not have the skills to deal with student disciplinary problems.

- ☐ Strongly Disagree
- ☐ Disagree
- ☐ Somewhat Disagree
- ☐ Somewhat Agree
- ☐ Agree
- ☐ Strongly Agree

### 10. The opportunities in this community help ensure that students will learn.

- ☐ Strongly Disagree
- ☐ Disagree
- ☐ Somewhat Disagree
- ☐ Somewhat Agree
- ☐ Agree
- ☐ Strongly Agree

### 11. Learning is more difficult at this school because students are worried about their safety.

- ☐ Strongly Disagree
- ☐ Disagree
- ☐ Somewhat Disagree
- ☐ Somewhat Agree
- ☐ Agree
- ☐ Strongly Agree

## Early Career Agriculture Teachers Experiences<br>

**12. Drug and alcohol abuse in the community make learning difficult for students here.**

- ☐ Strongly Disagree
- ☐ Disagree
- ☐ Somewhat Disagree
- ☐ Somewhat Agree
- ☐ Agree
- ☐ Strongly Agree

## Early Career Agriculture Teachers Experiences<br>

### Teaching Efficacy

Please indicate your opinion about each of the statements below.

#### 1. I can control disruptive behavior in my classroom.

- ☐ Very Strongly Disagree
- ☐ Strongly Disagree
- ☐ Disagree
- ☐ Moderately Disagree
- ☐ Neutral
- ☐ Moderately Agree
- ☐ Agree
- ☐ Strongly Agree
- ☐ Very Strongly Agree

#### 2. I can motivate students who show low interest in school work.

- ☐ Very Strongly Disagree
- ☐ Strongly Disagree
- ☐ Disagree
- ☐ Moderately Disagree
- ☐ Neutral
- ☐ Moderately Agree
- ☐ Agree
- ☐ Strongly Agree
- ☐ Very Strongly Agree

## Early Career Agriculture Teachers Experiences<br>

### 3. I can get students to believe they can do well in school work.

- ☐ Very Strongly Disagree
- ☐ Strongly Disagree
- ☐ Disagree
- ☐ Moderately Disagree
- ☐ Neutral
- ☐ Moderately Agree
- ☐ Agree
- ☐ Strongly Agree
- ☐ Very Strongly Agree

### 4. I can help students value learning.

- ☐ Very Strongly Disagree
- ☐ Strongly Disagree
- ☐ Disagree
- ☐ Moderately Disagree
- ☐ Neutral
- ☐ Moderately Agree
- ☐ Agree
- ☐ Strongly Agree
- ☐ Very Strongly Agree

### 5. I can craft good questions for my students.

- ☐ Very Strongly Disagree
- ☐ Strongly Disagree
- ☐ Disagree
- ☐ Moderately Disagree
- ☐ Neutral
- ☐ Moderately Agree
- ☐ Agree
- ☐ Strongly Agree
- ☐ Very Strongly Agree

## Early Career Agriculture Teachers Experiences<br>

### 6. I can get children to follow classroom rules.

- ☐ Very Strongly Disagree
- ☐ Strongly Disagree
- ☐ Disagree
- ☐ Moderately Disagree
- ☐ Neutral
- ☐ Moderately Agree
- ☐ Agree
- ☐ Strongly Agree
- ☐ Very Strongly Agree

### 7. I can calm a student who is disruptive or noisy.

- ☐ Very Strongly Disagree
- ☐ Strongly Disagree
- ☐ Disagree
- ☐ Moderately Disagree
- ☐ Neutral
- ☐ Moderately Agree
- ☐ Agree
- ☐ Strongly Agree
- ☐ Very Strongly Agree

### 8. I can establish a classroom management system with each group of students.

- ☐ Very Strongly Disagree
- ☐ Strongly Disagree
- ☐ Disagree
- ☐ Moderately Disagree
- ☐ Neutral
- ☐ Moderately Agree
- ☐ Agree
- ☐ Strongly Agree
- ☐ Very Strongly Agree

## Early Career Agriculture Teachers Experiences<br>

### 9. I can use a variety of assessment strategies.

- ☐ Very Strongly Disagree
- ☐ Strongly Disagree
- ☐ Disagree
- ☐ Moderately Disagree
- ☐ Neutral
- ☐ Moderately Agree
- ☐ Agree
- ☐ Strongly Agree
- ☐ Very Strongly Agree

### 10. I can provide an alternative explanation or example when students are confused.

- ☐ Very Strongly Disagree
- ☐ Strongly Disagree
- ☐ Disagree
- ☐ Moderately Disagree
- ☐ Neutral
- ☐ Moderately Agree
- ☐ Agree
- ☐ Strongly Agree
- ☐ Very Strongly Agree

### 11. I can assist families in helping their children do well in school.

- ☐ Very Strongly Disagree
- ☐ Strongly Disagree
- ☐ Disagree
- ☐ Moderately Disagree
- ☐ Neutral
- ☐ Moderately Agree
- ☐ Agree
- ☐ Strongly Agree
- ☐ Very Strongly Agree

## Early Career Agriculture Teachers Experiences<br>

**12. I cannot implement alternative strategies in my classroom.**

- ☐ Very Strongly Disagree
- ☐ Strongly Disagree
- ☐ Disagree
- ☐ Moderately Disagree
- ☐ Neutral
- ☐ Moderately Agree
- ☐ Agree
- ☐ Strongly Agree
- ☐ Very Strongly Agree

## Early Career Agriculture Teachers Experiences<br>

### Demographic Information

Please answer the following questions about yourself and the school where you teach.

If you teach in more than one school with in your school district, please answer these questions based upon your primary school.

**1. Check the answer that best describes your current Agricultural Education certification status.**

- ☐ Certified - Traditional Route  
☐ Certified - Alternative Route  
☐ Certification in progress  
☐ Uncertified

**2. What is your gender?**

- ☐ Male  
☐ Female

**3. What is your age?**

years

**4. Including this year, how many years have you taught Agricultural Education?**

years

**5. Including this year, how many years have you taught Agricultural Education at your current school?**

years

**6. If you have taught another subject, how many years did you teach that subject?**

years

**7. Are you currently participating in, or completed an Agricultural Education induction or mentoring program?**

- ☐ Yes  
☐ No

**8. Do you have an assigned mentor?**

- ☐ Yes  
☐ No

## Early Career Agriculture Teachers Experiences<br>

**9. If you answered 'no' to question # 8, have you every had a mentor teacher assigned to you?**

☐ Yes

☐ No

**10. If you are currently assigned a mentor or were previously assigned one, were they an Agricultural Education teacher?**

☐ Yes

☐ No

☐ Not Applicable

**11. What is your ethnicity?**

☐ American Indian or Alaskan

☐ Asian or Pacific Islander

☐ Black, not of Hispanic origin

☐ Hispanic

☐ White, not of Hispanic origin

☐ Biracial

Other (please specify)

**12. Approximately how many students attend the school in which you teach?**

students

**13. What is the Agricultural Education enrollment at your school?**

students

**14. How many of your students are FFA members?**

students

## Early Career Agriculture Teachers Experiences<br>

**15. How many agriculture teachers are there in your school?**

- ☐ 1  
☐ 2  
☐ 3  
☐ 4  
☐ 5  
☐ More than 5

**16. How would you best describe the community in which you teach?**

- ☐ Rural/Small Town  
☐ Suburban  
☐ Urban

**17. How many years were you involved in FFA in high school?**

years

**18. During elementary school, junior high school, middle school, and high school, how many years were you involved in 4-H?**

years

**19. Do you plan on teaching next year?**

- ☐ Yes  
☐ No

**20. Do you plan on teaching at your current school next year?**

- ☐ Yes  
☐ No

**21. In what state do you live?**



## **APPENDIX E: INITIAL EMAIL REQUEST TO PARTICIPATE IN THE STUDY**

June 11, 2013

To: [Email]  
From: "mswaff1@tigers.lsu.edu via surveymonkey.com" <member@surveymonkey.com>  
Subject: Research study assistance needed  
Body: Dear [FirstName]

I need your help. I am conducting a teaching efficacy study of early career Agriculture Education teachers. Teaching efficacy is the belief in one's ability to bring about desired outcomes of student engagement and learning. This study seeks to explain the influence of the factors that have been found to affect early career teachers' sense of teaching efficacy. The study will examine your perceived sense of teaching efficacy, the support from your principal, teacher preparation, the collective efficacy of the faculty with whom you teach, and selected demographic characteristics.

You are one of a small group that has been selected to participate in this study. The findings of this study will be useful for those individuals and groups who prepare and support Agriculture Education teachers. This survey should take about 10-15 minutes. Please complete the survey by Friday, June 14th.

The results will not be associated with you or your school in any way. Your identity will remain confidential. If you have any questions or concerns, please call or e-mail and I will be happy to discuss your questions. If you have questions about subjects' rights or other concerns, you may contact Robert C. Mathews, LSU Institutional Review Board, at (225) 578-8692, [irb@lsu.edu](mailto:irb@lsu.edu), or [www.lsu.edu/irb](http://www.lsu.edu/irb).

By responding to this survey, you are agreeing to participate in this study. Simply click on this link to complete the survey: <https://www.surveymonkey.com/s.aspx>

Marshall Swafford  
(660) 822-6444

Dr. Joe Kotrlik  
(225) 578-5753

Please note: If you do not wish to receive further emails from us, please click the link below, and you will be automatically removed from our mailing list.  
<https://www.surveymonkey.com/optout.aspx>

## **APPENDIX F: SECOND EMAIL REQUESTING PARTICIPATION IN THE STUDY**

June 18, 2013

To: [Email]  
From: "mswaff1@tigers.lsu.edu via surveymonkey.com" <member@surveymonkey.com>  
Subject: Research study assistance needed  
Body: Dear [FirstName]:

Last Monday, I sent you a survey addressing the experiences of early career Agricultural Education teachers. As of today, you have not completed the survey. This study will provide insight into the factors that impact the teaching efficacy of early career teachers. The findings will be useful to faculty, state departments of education, and others in positions to support beginning teachers. Your privacy will be maintained and your responses will be confidential.

I am asking you to take 10-15 minutes by Friday to complete and submit the survey. If you have questions, please contact me or my faculty advisor, Dr. Joe Kotrlik.

Please use the following link to complete the survey,  
<https://www.surveymonkey.com/s.aspx> .

Thank you for your assistance and attention to this matter.

Marshall Swafford  
(660) 822-6444

Joe Kotrlik  
(225) 578-5753

Please note: If you do not wish to receive further emails from us, please click the link below, and you will be automatically removed from our mailing list.  
<https://www.surveymonkey.com/optout.aspx>

## **APPENDIX G: THIRD EMAIL REQUESTING PARTICIPATION IN THE STUDY**

June 25, 2013

To: [Email]  
From: "mswafford@albany.k12.mo.us via surveymonkey.com"  
<member@surveymonkey.com>  
Subject: Research Study Assistance Needed  
Body: Dear [FirstName]:

[FirstName], I sent you a survey on June 10 and June 18 addressing the experiences of early career Agricultural Education teachers. As a fellow Agricultural Education teacher, I know your summer is busy with camps, student activities, as well as family vacations. However, as of today, I have not received your completed survey. Your assistance will provide insight into the factors that impact the teaching efficacy of early career teachers. The findings will be useful to faculty, state departments of education, and others in positions to support beginning teachers. Your privacy will be maintained and your responses will be confidential.

I am asking you to take 10-15 minutes of your time to complete and submit this survey by Thursday, June 27th. If you have questions, please contact me or my faculty advisor, Dr. Joe Kotrlik.

Please use the following link to complete the survey,  
<https://www.surveymonkey.com/s.aspx> .

Thanks for your participation!

Marshall Swafford  
(660) 822-6444

Joe Kotrlik  
(225) 578-5753

Please note: If you do not wish to receive further emails from us, please click the link below, and you will be automatically removed from our mailing list.  
<https://www.surveymonkey.com/optout.aspx>

## **APPENDIX H: PERMISSION TO USE AND MODIFY TEACHERS' SENSE OF EFFICACY SCALE-SHORT FORM**

Anita Hoy <anitahoy@mac.com>

Oct 30, 2013

to mswaffl@tigers.lsu.edu

You are welcome to use and modify as needed. See this site:

<http://people.ehe.osu.edu/ahoy/research/instruments/>

*Anita*

Anita Woolfolk Hoy  
Professor Emerita  
Educational Psychology & Philosophy  
The Ohio State University

7687 Pebble Creek Circle  
Unit 102  
Naples, FL 34108

phone: 239-592-4859  
Cell: 415-640-2017

<http://people.ehe.osu.edu/ahoy/>

**APPENDIX I: PERMISSION TO USE AND MODIFY THE  
ORGANIZATIONAL CLIMATE DESCRIPTION  
QUESTIONNAIRE FOR SCEONDARY SCHOOLS AND  
COLLECTIVE EFFICACY SCALE – SHORT FORM**

Wayne Hoy

Oct 30, 2013

tomswaff1@tigers.lsu.edu

Hi Marshall--

You may use any of the instruments I have on my web page [[www.waynekhoy.com](http://www.waynekhoy.com)] without charge for your research.

Best wishes.

*Wayne*

**Wayne K. Hoy**  
**Fawcett Professor Emeritus in**  
**Education Administration**  
**The Ohio State University**  
**[www.waynekhoy.com](http://www.waynekhoy.com)**

**7687 Pebble Creek circle, #102**  
**Naples, FL 34108**  
**Email: [whoy@mac.com](mailto:whoy@mac.com)**  
**Phone: [239 595 5732](tel:2395955732)**

## VITA

Marshall Ray Swafford, a native of Savannah, Missouri, graduated from Savannah High School in 1996. He earned the Bachelor of Science degree in Agricultural Education in 2000 from Northwest Missouri State University in Maryville, Missouri. While an undergraduate at Northwest, he was a member of the Alpha Tau Alpha Professional Agricultural Education Fraternity, the Ag Club, and the Livestock Judging Team. He earned his Master of Science in Agricultural Education from the University of Missouri in 2005. He earned his Doctor of Philosophy in Human Resource Education and Workforce Development with an emphasis in Agricultural Education from Louisiana State University in 2013.

He began his professional career as an agriculture teacher at Union Star High School in Union Star, Missouri in 2000 and was the recipient of the Jess Clonts Memorial Scholarship for “The Outstanding First Year Agriculture Educator in the State of Missouri” in 2001. He has taught a total of 12 years in both Missouri and Oklahoma and received the Honorary State FFA Degree from the Oklahoma State FFA Association in 2010. Since 2010, he has taught agriculture education at Albany High School in Albany, Missouri.

He is currently a member of the American Association for Agricultural Education, Association for Career and Technical Education, National Association of Agricultural Educators, Missouri Vocational Agriculture Teachers Association, Missouri Association for Career and Technical Education, Missouri Area II Agriculture Teachers Association, Alpha Tau Alpha, and the Gentry County Junior Livestock Association Board of Directors.

He has been married for eight years and has three children, who live with him and his wife in Albany, Missouri. He enjoys coaching and watching football, raising and exhibiting livestock, and spending time with family and friends.