

**PERCEPTIONS OF TEXAS AGRICULTURAL EDUCATION TEACHERS
REGARDING DIVERSITY INCLUSION IN SECONDARY AGRICULTURAL
EDUCATION PROGRAMS**

A Dissertation

by

DOUGLAS DEMONE LAVERGNE

Submitted to the Office of Graduate Studies of
Texas A&M University
in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

December 2008

Major Subject: Agricultural Education

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Committee Members,	Gary E. Briers
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ABSTRACT

Perceptions of Texas Agricultural Education Teachers Regarding Diversity Inclusion in
Secondary Agricultural Education Programs.

(December 2008)

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While our schools across the United States evidently are witnessing an influx of students from diverse backgrounds, the need to address the issue of diversity among public school teachers is critical for inclusive and equitable schools. The purpose of this study was to explore and analyze Texas secondary agricultural education teachers' attitudes toward diversity inclusion in Texas secondary agricultural education programs.

Using a web-based questionnaire, the researcher employed a nonproportional stratified random sampling technique, and 232 secondary agricultural education teachers participated in the study. Descriptive statistics were used for reporting the demographic and personal characteristics of respondents. Mean scores were used to assess teachers' perceptions of the benefits of diversity inclusion, perceptions of the barriers of diversity inclusion, and perceptions of proposed solutions to increase diversity inclusion in Texas secondary agricultural education programs.

The sample consisted of 170 males and 45 females. The ethnic distribution of the sample was 90.5% White/European American, 6.2% Hispanic/Latino American, 1.9% Native American, 0.9% African American, and 0.5% Asian American. Respondents agreed that secondary agricultural education programs can benefit students of color and students with disabilities. Respondents also agreed that some of the barriers that prevent diversity inclusion in agricultural education include the lack of information about agricultural education, negative parental attitudes about agricultural education, and not being accepted by peers. Respondents indicated that the following is needed for all students to achieve in school: (a) educators, parents, and policymakers must develop strategies to address the different learning styles of all students; (b) agricultural educators should encourage and strive to increase students' of color membership in FFA; (c) teachers should become familiar with students of color represented in their classrooms in order to promote an atmosphere of acceptance and cooperation; and (d) agricultural educators should increase recruitment efforts to promote diversity inclusion must occur. The study also indicated that statistically significant differences in means scores existed based upon certain personal characteristics in regards to the *Benefits*, *Barriers*, and *Solutions* scales.

DEDICATION

This dissertation is dedicated to all of my family members and friends who have provided me with the encouragement and inspiration to achieve an unprecedented accomplishment in my life. Thank you so much for your prayers, blessings, and love.

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I have many individuals to thank for helping me reach this point. First, I thank God for finding favor in me to achieve so much. I waited for my blessings, and I thank Him for surrounding me with beautiful people to see me through this process.

To my parents, Andrew and Linda, thanks for not allowing me to settle for mediocrity. To my mother, I say thank you for teaching me that nothing in life was free and that anything that the heart desires, the good Lord would provide. To my father, I say thank you for instilling in me hard work and dedication to any task that I pursue. Because of you both, I am known for my diligent and caring demeanor. To my brothers, sisters, nieces, and nephews, I would like to thank you and encourage you to “step out on that limb” and go after your dreams.

I would like to thank my committee chair, Dr. Alvin Larke Jr., for his guidance and support for these past few semesters. You never were too busy to answer any questions that I may have had about school or life, and I promise that I will help someone else as you have helped me.

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CHAPTER I

INTRODUCTION

One goal outlined by *The National Strategic Plan and Action Agenda for Agricultural Education: Reinventing Agricultural Education for the Year 2020* states: “All students have access to seamless, lifelong instruction in agriculture, food, fiber and natural resource systems through a wide variety of delivery methods and educational settings” (National Council for Agricultural Education, 2000, p. 4). The societal force to recruit and maintain diversity in agricultural education is just as important as ever before. As our society progresses farther and farther into the 21st century, the trials, concerns, and opportunities related to diversity are at the utmost importance. Although we, as an agricultural profession, have made strides for diversity, our profession still lacks diversity at a level advocated by many state and federal agencies (Kantrovich, 2007). From secondary school enrollments to faculty and staff positions at major colleges and universities, the agricultural education profession has failed to keep pace with the ever changing ethnic influx. Data on race/ethnicity and gender show that 88% of all agricultural educators are White with almost 64% being White male and 24% being White female (Kantrovich, 2007). African American teachers comprise 2.5% of agricultural education teachers while Hispanic teachers comprise 1%, followed by Native Americans at 0.26% (Kantrovich, 2007). Although the demographics of agricultural educators have remained monochromatic, the push for diversity must continue to progress. Irvine (2003) stated: “most teachers now in classrooms and in

This dissertation follows the style and format of the *Journal of Agricultural Education*.

teacher education programs are likely to have students from diverse ethnic, racial, language, and religious groups in their classrooms during their careers” (p. x). The increasing diversity of students and the homogenization of public school teachers mean that more and more educators will teach students from diverse backgrounds (Wang 2006). Loudenslager (2006) sums it up perfectly:

Agricultural education’s record of attracting and serving a diverse student body is mixed at best. We have made great progress in gender and geographic (rural, urban and suburban) diversification. But, the goal of attracting and fully engaging all students of color and varied socio-economic means and locales has been elusive. (p.2)

Diversity has become progressively more reflective in public schools across the country. In public schools across the United States, the population of students of color reached 30% in 1990, 34% in 1994, and 40% in 2002 and will continue to increase throughout the 21st century (Hodgkinson, 1991, 2001, 2002; KewalRamani, Gilbertson, Fox, & Provasnik, 2007; National Center for Educational Statistics, 2007). In contrast, White educators represent 90% of public school teachers (Gay, Dingus, & Jackson, 2003; National Center for Educational Statistics, 2007), a figure that will remain high or possibly grow in the next few decades. In addition, the National Collaborative on Diversity in the Teaching Force (2004) reported that 40% of schools had no teachers of color. This figure increasingly is alarming considering the fact that research indicates a direct negative impact on the achievement of students of color because White teachers prefer not to teach them, meet their cultural needs, are indifferent about understanding

diversity, view race/ethnicity and culture as a problem rather than an asset, and lack a historical respect for non-Eurocentric cultures (Gay, Dingus, & Jackson 2003; Ladson-Billings 1994; Zeichner 1996a, 1996b).

The changing demographics in the United States and in public schools have demanded changes in the agricultural education profession, as national organizations like FFA, and The National Council for Agricultural Education realize that tomorrow's teachers and students of agricultural education will be from a broader than ever diversity of students. Teachers of agricultural education must be prepared in terms of philosophy, pedagogy and curriculum to deal with the challenges of an increasingly diverse population and actively work on preparing this population to navigate the waters of agricultural education successfully.

Students with Disabilities

Since the inception of P.L. 94-142 and the reauthorization of the No Child Left Behind Act of 2002, the movement to include students with disabilities in regular education settings has become an important topic. The Individuals with Disabilities Education Act Amendments of 1997 (P.L. 105-77) require that students with disabilities have access to the general curriculum along with the Carl D. Perkins Vocational and Applied Technology Act of 1990 (P.L. 101-392) mandating equal access to career and technical education for students with disabilities. Federal and state initiatives to ensure public educational opportunities to students with disabilities have resulted in the inclusion of these children in normal school settings. The increasing number of children in regular education classes requiring different accommodations in the classroom has

had a profound impact on the nature of teaching (Hayes, 2008). Not only do regular education teachers have to provide services for children with a range of behavioral and developmental differences, but also provide services that are responsive to the diverse needs of children who vary considerably in their cultural, ethnic, and linguistic backgrounds. The various changes in the field of agricultural education have prompted a shift toward the changing needs of our society and, in turn, have made the profession more applicable to a wide range of people.

Because of the dynamic shifts in education and society, the public education system in the United States is relying less on sorting students by specific label and abilities. Instead, school districts and administrators now are grouping students intentionally to create diversified learning environments. Because of this grouping, agricultural educators are faced with an important task of providing an effective instruction that will address every student in the classroom. Elbert and Baggett (2003) concluded that “because programs have evolved toward mainstreaming disabled students due to legislation and various philosophies held by educators, most agricultural educators continue to feel less than competent while working with disabled students” (p. 113). Hyunsoo (2004) concluded that general education teachers often report that they do not feel confident enough in their knowledge and skills to teach students with disabilities effectively.

While our schools across the United States evidently are witnessing an influx of students from diverse backgrounds, society must remember that students are the lifeline to public education. If agricultural education is to move forward in the 21st century,

teachers must equip themselves with the proper knowledge of meeting the needs of their clients.

Agriculture classes are noted for being heterogeneous, i.e., made up of students with different characteristics. Oftentimes ages, interests, ability levels, maturity and home backgrounds of students in a single class differ remarkably. Especially challenging to the teacher are students who are working far above or below grade level and those who are physically or academically handicapped.

Accommodating diverse needs requires extra effort. Ideally, every student should receive instruction tailored to his or her needs, abilities and learning styles.

(Lawrence, 2001, p. 35).

What Is “Diversity Inclusion?”

While students with disabilities and the special education curriculum continue to be the principal focal point of inclusion, in recent years the term has been extended to include the increased cultural/linguistic plurality, coupled with other dimensions along which people may differ (e.g., socioeconomic status, geographical influences, gender, religious sect, etc.). The presence of diversity in our classrooms should be encouraged and promoted. Research has shown that diversity has a positive impact on students' cognitive and personal development because it challenges stereotypes, broadens perspectives, and sharpens critical thinking skills (Banks, 1994). Diversity inclusion is an educational philosophy that welcomes all learners by actively engaging them in secondary agricultural education programs regardless of their race, ethnicity, or exceptionality. Diversity inclusion is also the act of acknowledging these differences and

in turn, fostering an atmosphere to effectively teach every student in the classroom. Diversity inclusion mirrors a practical, human development approach to not only the educational wellbeing but also social wellbeing that calls for more than removing the barriers or fears of a cultural responsive classroom. It requires dedication and action to bring about the conditions for diversity inclusion, as other professions in our country has developed.

The bright vision for diversity inclusion requires that the profession of agricultural education acts as one in fully accepting, embracing and promoting diversity inclusion not only in our classrooms but in other components of agricultural education.

Statement of the Problem

Diversity increasingly has become reflected in schools across the state of Texas. Despite this fact, schools have typically been slow to make changes to meet the needs of diverse learners (Phuntsog, 2001). During the 2006-2007 academic school year in the state of Texas, there were 120,110 students enrolled in secondary agricultural education programs, with White students representing 63% of total enrollment, in comparison to Hispanic Americans who comprised of 27% of total enrollment (Texas Education Agency TEA, 2008a). African Americans made up 9% of agricultural education student enrollment followed by Asian Americans (1%) and Native Americans constituting 0.5% (TEA). Gender representation in secondary agricultural education programs reflected a 66% to 34% male/female ratio (TEA). When comparing the percentage of students of color in secondary agricultural education with the number of teachers of color in secondary agricultural education teachers, a disparity exists. Currently, one white

agricultural teacher exists for every 47 White students compared to one teacher of color for every 320 students of color. Students with disabilities represented 19% of secondary agricultural education students while students with disabilities accounted for only 14% of the entire secondary enrollment (TEA, 2008b; Texas Education Association Information Analysis Division, 2008).

Taking in consideration the above mentioned data, the need to prepare teachers for an increasingly diverse classroom clearly is important. Research indicates that the teacher is the most important element that affects student learning in the classroom (Marzano, 2003). Research also has indicated that the attitudes and expectations of the teacher affect the performance of the students in the classroom (Marzano, 2003; McLeskey & Waldron, 2007). Because of the importance of their position in cultivating young minds from diverse backgrounds, agricultural education teachers must be prepared to take on this important task. With the changing demographics occurring in Texas, the need to recruit, retain and teach students of color and students with disabilities is critical for the success of agricultural education.

Purpose and Objectives of Study

The purpose of this study was to explore and analyze the attitudes of Texas secondary agricultural education teachers toward diversity inclusion in Texas secondary agricultural education programs. A secondary purpose was to explore relationships between selected variables including gender, age, ethnicity, teaching experience, area of agricultural science teaching experience, and diversity/multicultural experience. The following objectives were identified to accomplish the purpose of this study:

1. To identify personal characteristics of the selected Texas secondary agricultural science teachers;
2. Assess Texas secondary agricultural education teachers' perceptions of the benefits of diversity inclusion in Texas secondary agricultural education programs;
3. Evaluate Texas secondary agricultural education teachers' perceptions of the barriers of diversity inclusion in Texas secondary agricultural education programs;
4. Determine Texas secondary agricultural education teachers' perceptions of proposed solutions to increase diversity inclusion in Texas secondary agricultural education programs; and
5. To determine if relationships existed among agricultural education teachers' selected demographic and personal characteristics, their perceptions of benefits toward diversity inclusion, perceived barriers towards diversity inclusion, and proposed solutions to increase diversity inclusion in secondary agricultural education programs.

Hypotheses

The following null and alternative hypotheses were developed to guide this study.

Null Hypotheses

Ho₁: No difference exists in Texas secondary agricultural education teachers' perceptions of the benefits of diversity inclusion in the presence of

teaching area, age, gender, teaching experience, preservice diversity/multicultural training, inservice diversity/multicultural training, ethnicity, or school setting.

H₀₂: No difference exists in Texas secondary agricultural education teachers' perceptions of the barriers of diversity inclusion in the presence of teaching area, age, gender, teaching experience, preservice diversity/multicultural training, inservice diversity/multicultural training, ethnicity, or school setting.

H₀₃: No difference exists in Texas secondary agricultural education teachers' perceptions of proposed solutions to increase diversity inclusion in the presence of teaching area, age, gender, teaching experience, preservice diversity/multicultural training, inservice diversity/multicultural training, ethnicity, or school setting.

Alternative Hypotheses

Ha₁: A difference will exist in Texas secondary agricultural education teachers' perceptions of the benefits of diversity inclusion in the presence of teaching area, age, gender, teaching experience, preservice diversity/multicultural training, inservice diversity/multicultural training, ethnicity, or school setting.

Ha₂: A difference will exist in Texas secondary agricultural education teachers' perceptions of the barriers of diversity inclusion in the presence of teaching area, age, gender, teaching experience, preservice

diversity/multicultural training, inservice diversity/multicultural training, ethnicity, or school setting.

Ha₃: A difference will exist in Texas secondary agricultural education teachers' perceptions of proposed solutions to increase diversity inclusion in the presence of teaching area, age, gender, teaching experience, preservice diversity/multicultural training, inservice diversity/multicultural training, ethnicity, or school setting.

Significance of the Study

By having a systematic and persistent understanding of Texas secondary agricultural education teachers' perceptions toward diversity inclusion in Texas secondary agricultural education programs, strategies could be developed, implemented, and evaluated by state agricultural education officials that potentially could increase students of color and students with disabilities presence in secondary agricultural education programs at the student and educator levels. Research has indicated students are more likely to become involved in a vocational education sector, particularly agricultural education, if individuals from their respective ethnic minority group or gender are employed in instructional and supervisory roles (Williams, 1992; Jones & Bowen, 1998; Osborne, 1994). The changing demographics in Texas schools reflect an increasing student of color population and, by about 2020, two-thirds of the entire Texas population will be people of color (Scheurich & Skrla, 2003).

As classrooms continue to move toward the inclusion of students with disabilities, teachers are, and will be, held accountable for their students' success. This

study will provide useful information about the perceptions of students with disabilities. Gathering this information could determine important themes that could produce strategies designed to increase students with disabilities participation in secondary agricultural education courses and assist agricultural education teachers with those students currently in agricultural education programs. Darling-Hammond and Bransford (2005) sum it up best:

The classes of most teachers in the twenty-first century—unlike those taught 50 years ago—are highly diverse in terms of the cultural, language, racial, and economic backgrounds of the students. Thus teachers must have the tools for inquiring into the culture, groups, and individuals represented in their classrooms. In addition, because the span of ability and experience levels in today's classrooms has widened greatly, with many students who traditionally would have been segregated from other students in special education classes now included in general classrooms, teachers need to have more knowledge about the nature of learning differences and disabilities as well. (p.236)

Limitations of the Study

The results, conclusions, and implications of this study have several limitations.

These limitations are as follows:

1. The population for this study was limited to the 1500 Texas secondary agricultural education teachers who provided e-mail addresses to JudgingCard.com website.

2. Findings for this study may not be generalized to any group other than Texas agricultural science teachers selected to participate. Generalizing the conclusions, results, and implications of this study beyond the sample is inappropriate.
3. A non-experimental design research methodology was imposed.
4. The study was limited to the extent to which the participants were truthful in their responses to the questionnaire.

Delimitations

This study was delimited to the 1500 Texas secondary agricultural education teachers who provided e-mail addresses to JudgingCard.com website that was retrieved on May 1, 2008.

Assumptions

Some assumptions were made during this study. The assumptions were as follows:

1. Participants in this study accurately completed all four parts of the questionnaire.
2. The sample drawn was representative of all secondary agricultural education teachers in the state of Texas.

Definition of Terms

Several key terms were used throughout this study. To provide a better understanding of their meanings, the researcher provided the following definitions.

Agricultural education – the systematic instruction in agriculture and natural resources at the elementary, middle school, secondary, postsecondary, or adult levels for the purpose of (1) preparing people for entry or advancement in agricultural occupations and professions, (2) job creation and entrepreneurship, and (3) agricultural literacy (Phipps, Osborne, Dyer, & Ball, 2008).

Diversity – the variety of differences within a category or classification; most often refers to differences of gender, ethnicity, and socioeconomic status, though other forms of diversity, including geography, religious belief, and language, need to be considered (Talbert, Vaughn, Croom, & Lee, 2007).

Diversity inclusion - an educational philosophy that welcomes all learners by actively engaging them in the educational process regardless of their race, ethnicity, or exceptionality. Diversity inclusion is also the act of acknowledging these differences and in turn, fostering an atmosphere to teach every student effectively in the classroom.

Inclusion – an educational philosophy for structuring schools so that all students are educated together in general education classes (Salend, 2008).

Multicultural education – an educational philosophy that seeks to help teachers acknowledge and understand the increasing diversity in society and in the classroom, and to see their students' diverse backgrounds as assets that can support student learning and learning of others (Salend, 2008).

Secondary agricultural education programs – a program of instruction in and about agriculture and related subjects offered in schools that include grades 9 or 10 through 12.

Special education – an integral part of the educational system that involves delivering and monitoring a specially designed and coordinated set of comprehensive, research-based instructional and assessment practices and related services to students with learning, behavioral, emotional, physical, health, or sensory disabilities (Salend, 2008).

Students of color – this term implies to Black/African American, Hispanic, Native American, Asian, and unspecified students whose race/ethnicity is other than White/European American.

Students with disabilities - Students designated as special education students under the Individuals with Disabilities Act (IDEA-Part B). These students have a written instructional plan and receive various types of special education and related services for a mental or physical disability. Students with disabilities include students with mental retardation, hearing impairments (including deafness), speech or language impairments, visual impairments (including blindness), serious emotional disturbance, orthopedic impairments, autism, traumatic brain injury, developmental delay, other health impairments, or other specific learning disabilities (State Education Data Center, 2008).

Teachers of color - this term applies to Black/African American, Hispanic, Native American, Asian, and unspecified teachers whose race/ethnicity is other than White/European American.

Chapter Summary

The agricultural education profession is faced with a large task: to accommodate for the large demographic shift that is occurring in our nation's schools. Secondary agricultural education teachers provide a valuable instruction to the lives of students that

matriculate through their classrooms. The ability of agricultural education teachers to teach a wide variety of students is vital to success and practicality of the profession.

In order for agricultural education programs to maintain success, a thorough understanding and recognition of students of color and students with disabilities must be relevant to agricultural education teachers. In order to fulfill this goal, a study to understand the state of these individuals must be initiated. In other words, the success of agricultural education soon will depend on agricultural education teacher's ability to provide appropriate instruction to students of color and students with disabilities. The chapter concluded with a statement of the problem, the purpose of the study, and objectives of the study. The significance of the study, limitations, delimitations, assumptions, and definition of terms also were included in the chapter.

CHAPTER II

REVIEW OF LITERATURE

Purpose and Objectives of Study

The purpose of this study was to explore and analyze the attitudes of Texas secondary agricultural education teachers toward diversity inclusion in Texas secondary agricultural education programs. A secondary purpose was to explore relationships between selected variables including teaching area, age, gender, teaching experience, preservice diversity/multicultural training, inservice diversity/multicultural training, ethnicity, or school setting. Additionally, the following objectives were identified to accomplish the purpose of this study:

1. To identify personal characteristics of the selected Texas secondary agricultural science teachers;
2. To describe Texas secondary agricultural education teachers' perceptions of the benefits of diversity inclusion in Texas secondary agricultural education programs;
3. To describe Texas secondary agricultural education teachers' perceptions of the barriers of diversity inclusion in Texas secondary agricultural education programs;
4. To determine Texas secondary agricultural education teachers' perceptions of proposed solutions to increase diversity inclusion in Texas secondary agricultural education programs; and

5. To determine if relationships exist between and among selected personal variables, benefits of diversity inclusion, barriers to diversity inclusion, and solutions to increase diversity inclusion.

Furthermore, the following null and alternative hypotheses were developed to accomplish the purpose of this study:

Hypotheses

The following null and alternative hypotheses were developed to guide this study.

Null Hypotheses

- Ho₁: No difference exists in Texas secondary agricultural education teachers' perceptions of the benefits of diversity inclusion in the presence of teaching area, age, gender, teaching experience, preservice diversity/multicultural training, inservice diversity/multicultural training, ethnicity, or school setting.
- Ho₂: No difference exists in Texas secondary agricultural education teachers' perceptions of the barriers of diversity inclusion in the presence of teaching area, age, gender, teaching experience, preservice diversity/multicultural training, inservice diversity/multicultural training, ethnicity, or school setting.
- Ho₃: No difference exists in Texas secondary agricultural education teachers' perceptions of proposed solutions to increase diversity inclusion in the presence of teaching area, age, gender, teaching experience, preservice diversity/multicultural training, inservice diversity/multicultural training, ethnicity, or school setting.

Alternative Hypotheses

- Ha₁: A difference will exist in Texas secondary agricultural education teachers' perceptions of the benefits of diversity inclusion in the presence of teaching area, age, gender, teaching experience, preservice diversity/multicultural training, inservice diversity/multicultural training, ethnicity, or school setting.
- Ha₂: A difference will exist in Texas secondary agricultural education teachers' perceptions of the barriers of diversity inclusion in the presence of teaching area, age, gender, teaching experience, preservice diversity/multicultural training, inservice diversity/multicultural training, ethnicity, or school setting.
- Ha₃: A difference will exist in Texas secondary agricultural education teachers' perceptions of proposed solutions to increase diversity inclusion in the presence of teaching area, age, gender, teaching experience, preservice diversity/multicultural training, inservice diversity/multicultural training, ethnicity, or school setting.

In order to understand the current issues better facing secondary agricultural education teachers, the review of literature is subdivided into five major categories: (1) the history of inclusion; (2) teachers' perceptions of practices of inclusion; (3) the history of multicultural education; (4) culturally responsive teaching; and (5) a conceptual framework by which the study will be guided.

The History of Inclusion

Federal and state initiatives to ensure public educational opportunities to students with disabilities have resulted in the inclusion of these students in typical educational

settings. Before the 17th century, individuals with disabilities were feared, ridiculed, abandoned, or simply ignored (Salend, 2008). The concept of mainstreaming or including students with disabilities began to develop more structured during the civil rights movement that arose from the struggle for freedom and equality for people of color in the 1800s and early 1900s (Kochhar, West, and Taymans, 2000). During this time, parents and advocates of students with disabilities joined the civil rights movement to make a push for acceptance. As society began to address these differences, those individuals began to see an acceptance in society. However, it wasn't until the 19th century that institutions began to serve individuals with disabilities, although these institutions still were isolated from normal settings (Salend, 2008). The 1950s, 1960s, and 1970s was a significant time in the advocacy and advancement which resulted in legislative and court actions. In a landmark case, *Brown v. Board of Education* (1954), the Supreme Court ruled against the exclusion of minority populations from public schools (a violation of the 14th amendment). Beginning in 1965, the civil rights legislation began to lay the foundation of the Elementary and Secondary Education Act, but despite the passage of ESEA, children continued to be excluded from public school systems (Yell, Rogers, & Rogers, 1998). In 1967, many states had institutions that housed almost 200,000 persons with significant disabilities. Many of these restrictive settings provided only minimal food, clothing, and shelter (United States Department of Education, 2007). In 1970, U.S. schools educated only one in five children with disabilities, and many states had laws excluding certain students, including children who were deaf, blind, emotionally disturbed, or mentally retarded (United States Department

of Education, 2007) . In 1973, Congress passed Section 504 of the Rehabilitation Act, which marked the first major effort to protect persons with disabilities against discrimination from any programs receiving federal funding (Section 504, 29 U.S.C. 794 (a)).

The passage of the Individuals with Disabilities Act (Initially known as the Education for All Handicapped Children Act) played a significant role in the education of students with disabilities. Originating in 1975, the Education for All Handicapped Children Act (EHA) was a critical law regarding inclusion in education. The Individuals with Disabilities Act (IDEA) states that all children (ages 3 to 21 years) with disabilities have available to them a free, appropriate public education that emphasizes special education and related services designed to meet their unique educational needs and prepares them for employment and independent living. The basic principles of the Individuals with Disabilities Act are free and appropriate public education (termed “FAPE”), individualization, parental involvement, progress in the general curriculum, and inclusion (School Administrative Unit # 39, 2002). Stout (2007) reported that although IDEA doesn’t require schools to employ inclusive practices, but the law does require that students with disabilities be educated in a “least restrictive environment.”

In the late 1980s and the mid 1990s, individuals with disabilities and their families formed support and advocacy groups that advanced public guidelines that permitted individuals with disabilities to become full and equal members of society (Salend, 2008). During this time, a national concern existed for young children with disabilities and their families. While Public Law 94-142 mandated programs and

services for children 3 to 21 years that were consistent with state law, the 1986 Amendments (PL 99-457) to EHA mandated that states provide programs and services from birth (United States Department of Education, 2007). The passage of the Americans with Disabilities (ADA) in 1990 continued the trend of including people with disabilities. “Whereas Section 504 (of the IDEA) applies to programs that receive federal funds, the ADA extends the civil rights of individuals with disabilities by providing them with access to public facilities including schools, restaurants, local governments, and transportation” (Salend, 2008, p.29). The purpose of this law was to prevent discrimination against people with disabilities. The act also mandated that a plan be developed to aid in the transition from school to employment or additional post-secondary training. This Individual Transition Plan (ITP) is to be in place for every student with a disability by age 16 (Finegan, 2004). The IDEA of 1990 also ensured that students with disabilities are to be educated in a general educated environment while being supplied with any needed or support services as stated in a student’s individualized education plan. Because of the reauthorization of IDEA the term *handicapped* was replaced by the term *disabilities* (Salend, 2008). The amendments to IDEA in 1997 also saw a change in improving the performance of students with disabilities by ensuring higher expectations, providing better access to general education, including them in local and state assessments (results also must be publicized), and making special educators and administrators part of the students individualized education program (IEP) (Salend, 2008).

The history of assisting students with disabilities has provided a framework for which schools can utilize to make educational equitable for all individuals. In schools all across the country, early intervention programs and services are provided to almost 200,000 eligible infants and toddlers and their families, while nearly six million children and youth receive special education and related services to meet their individual needs (United States Department of Education, 2007). Other accomplishments related to the implementation of IDEA include more children being taught in their local neighborhood schools, rather than in separate schools and institutions, and contributing to improvements in the rate of high school graduation, post-secondary school enrollment, and post-school employment for youth with disabilities who have benefited from IDEA (United States Department of Education, 2007). Although federal, state and local government had made conditions and standards for children with disabilities better, some contrast still exists as to what the government has done so far. In a report published by the National Education Association (2008) the following statement was made:

Ever since its initial enactment, the federal law has included a commitment to pay 40 percent of the average per student cost for every special education student. The current average per student cost is \$7,552 and the average cost per special education student is an additional \$9,369 per student, or \$16,921. Yet, in 2004, the federal government is providing local school districts with just fewer than 20 percent of its commitment rather than the 40 percent specified by the law, creating a \$10.6 billion shortfall for states and local school districts (p.1)

As the nation's parents, citizens, educators and elected officials tackle the problems facing special education and students with disabilities, society must not forget about the long way in which we have come. Local public schools now are educating millions of disabled children, and a growing number of them are graduating from high school (National Education Association, 2008). If the goal for students with disabilities is in the best interest of teachers, parents, and taxpayers, then the proper steps must be taken to ensure adequate funding is furnished so that all students will have a chance to succeed.

Teachers' Perceptions of Inclusion

Over the past couple of years, a substantial amount of studies has been conducted concerning teacher attitudes and perceptions towards the inclusion of students with disabilities in regular education classes (Finegan, 2007; Marzano, 2003; McLeskey & Waldron, 2007; Miller & Savage, 1995; Park, 2004; Van Reusen, Shoho, & Barker, 2000). In an effort to examine much of this information, the investigator's goal was to highlight some of the research that has conducted pertaining to teacher perceptions of inclusion. A secondary goal was to look for emerging themes throughout the literature that may shed light on promoting and implementing a more inclusive atmosphere in agricultural education.

Attitudes of teachers play an important role in the success of an inclusive program. The problem that the education system has is how to provide an equitable academic curriculum which does not exclude individuals based upon their abilities or lack thereof. In order for schools to carry out this mission, the attitudes of teachers must

be assessed. A teacher's willingness to teach students with disabilities plays a critical factor in the success of an inclusive classroom. (Marzano, 2003). The feelings and expectations of the teacher also will have an effect on the performance of the students within the classroom (McLeskey & Waldron, 2007).

Finegan (2004) conducted a study concerning teacher perceptions involving inclusion in general education classes. The investigator looked into identifying teacher perceptions about educating students with special needs, examining relationships between teacher perceptions and years of teaching experience, grade level, and type of institution in which the teachers were employed, and identifying beliefs about the critical issues involved in implementing inclusion. A total of 1,341 general and career and technology educators in grade levels Pre-Kindergarten through grade 12 were surveyed regarding (a) the extent of previous training received in working with students with disabilities and perceived needs for additional training, (b) the frequency of communication between special and general education teachers, (c) the perceived helpfulness of suggestions given to general educators by special educators, (d) teacher participation in IEP team meetings and parent involvement in such meetings, (e) the provision of related services, and (f) teacher perceptions of their personal experiences with including students with disabilities in the general education classroom. Finegan found that teachers in Texas public schools generally favor traditional special education service delivery models over full inclusive practices. She also indicated that teachers perceive additional training, support from special education personnel and administrators, teacher communication and collaboration, and access to related services

are necessary in order to meet the needs of their students with disabilities in the general education setting.

Wood (2007) conducted a mixed method study to examine the relationship between teacher efficacy and their attitudes towards inclusion. She also investigated the relationship between a teacher's attitude towards inclusion, the amount of time they spend each week making modifications and accommodations, and what training and support teachers feel they need to make inclusion more successful. After surveying 1,189 inclusion teachers within a Phoenix area school district, she discovered a positive correlation between teacher efficacy and teacher attitudes toward inclusion. In face to face interviews, she discovered that participants preferred training sessions (dealing with inclusion) that were short in duration (but ongoing). Participants of this study also reported that district training or workshops best met their needs and training should include information regarding the types of disabilities and specific strategies, accommodations and modifications for teaching special education students. The results in this study correlate with the findings in a study conducted by Miller and Savage (1995) which found that when general education teachers are provided training and supportive services from a collaborative guide, their attitudes, skills, and willingness to participate in collaborative interactions involving inclusion can be influenced positively. Smith (2007) also found that teachers were open to the idea of receiving intensive training on teaching strategies used for students with disabilities, appropriate behavioral interventions, and also about various disabilities.

Other studies also have discovered a positive correlation between teachers' self ratings of confidence in their ability to teach students with disabilities and their attitudes towards them (Park, 2004). Karasoff (1992) both reported that self-ratings from teachers concerning their ability to serve students with disabilities have had a positive correlation to their attitude measures.

In another study concerning high school teachers' attitudes toward inclusion, Van Reusen, Shoho, and Barker (2000) surveyed 125 teachers from a large suburban high school in San Antonio, Texas, on their attitudes toward the inclusion of students with disabilities in general education classrooms. Specifically, the researchers examined the extent to which high school teacher attitudes were affected by classroom experience level, gender, amount of special education training, and content or subject area taught. The researchers discovered a statistically significant difference between the amounts of training or experience the teachers had in teaching students with disabilities and the presence of positive or negative attitudes toward inclusion. Researchers also noted that teachers who reported higher levels of special education training or experience in teaching students with disabilities were found to hold more positive attitudes toward inclusion. The results of this study suggests that teachers with special education background or training and those who already have positive attitudes towards students with disabilities may be predisposed to seek out additional inclusive education practices and be more willing to be assigned to general education classrooms in which students with special needs are included (Van Reusen et. al). The findings in this study also revealed that teachers who taught elective courses (e.g., athletics, business, career and

technology, fine arts, journalism, R.O.T.C. and speech) reported similar attitudes toward inclusion as did those teachers who taught basic or required courses (Van Reusen et. al). The findings in this study indicate that, regardless of the nature of the class, all teachers in inclusive settings were concerned with the high stakes associated with the success of their students.

Gender Impact on Teacher Attitudes Toward Inclusion

In a comparative study involving regular and special education teachers on inclusive settings, Park (2004) concluded that gender significantly influenced participants' perceptions of their attitudes toward an inclusive classroom. Park reported that male teachers had significantly more positive attitudes about inclusive settings than did their female counterparts. Female participants displayed more negative attitudes toward inclusion than did male teachers. Pearman, Huang, Barnhart, and Mellblom (1992) conducted a study using teachers in a Colorado school district and reported that male teachers had a significant amount of negative opinions about inclusion than did their female counter parts. However, Alghazo (2002) investigated the attitudes of educators and administrators towards persons with disabilities (as a forecaster of future integration) and discovered that regular education teachers (male and female) had a more negative perception of including students with disabilities than did special education teachers. Alghazo also reported that regular education male and female teachers' attitudes toward persons with disabilities did not affect their opinion on whether students with learning disabilities should have a right to be enrolled in a regular education classroom. Because this study was done before inclusion had occurred, the findings may

indicate that educators may have preconceived notions of an inclusive classroom prior to any experience in teaching in one. The researcher also discovered that in the above mentioned studies, all regular education teachers had less positive attitudes of inclusion than did special education teachers.

Experience Impact on Teacher Attitudes Toward Inclusion

Teacher experience in teaching students with disabilities can have a critical influence on working in an inclusive setting. The impact of years of teaching can play an important role in a teacher's ability to accept the differences in their class. By obtaining research on teacher levels of experience regarding their attitudes towards inclusion, researchers possibly may determine at what level of teaching experience does inclusion begin to make sense.

In a study that examined pre-service teacher perceptions, Hastings and Oakford (2003) surveyed 93 student teachers on their attitudes toward the inclusion of children with special needs. The researchers discovered that student teachers expressed more negative attitudes towards the inclusion of children with behavioral and emotional problems than they did towards children with intellectual disabilities. The researchers also reported that student teachers training to work with older children were less negative about the impact of including children with special needs on other children in the school. Another interesting revelation in this study was that the researchers were not able to conclude that a teacher's experience with dealing with special needs students was an important factor

In a similar study involving student teachers, Kessell, Wingenbach, Burley, Lawver, Frazee and Davis (2006) researched the relationships between special education confidence, knowledge, and selected demographics of 274 agriculture education student teachers. The researchers concluded that if student teachers felt prepared to teach special needs student in agricultural classrooms and laboratories, and if the student teacher had spent time with a special needs person outside an academic setting, then they statistically were more confident in teaching special needs students (Kessell et al., 2006). The researchers also reported a statistically significant relationship occurred between student teachers' special education knowledge scores and selected demographics by which gender, age, and spending time with a special needs person outside an academic setting were associated with knowledge scores. As age and spending time with a special needs person increased, knowledge of disabilities and special education laws increased. The study also found that female student teachers had more knowledge about disabilities and special education laws than did males student teachers (Kessell et al., 2006).

In a study involving both preservice and inservice teachers, Burke and Sutherland (2004) examined if a relationship existed between the two involving their experiences with disabled students and their attitudes toward inclusion. The researchers reported that a statistically significant difference existed in knowledge of special education among preservice and inservice teachers. Results indicated that preservice teachers had a stronger knowledge background about disabilities than inservice teachers. The researchers also reported that preservice teachers had a stronger belief that inclusion has positive effects on special education students while inservice teachers believed

special education students negatively were affected (Burke & Sutherland, 2004). The study also revealed that preservice teachers believed that their preparation programs have prepared them to work with students with disabilities, were more willing to teach in inclusive classrooms, and all students with disabilities included in inclusion practices, and the belief that they had sufficient onsite training to work successfully with students with disabilities (Burke & Sutherland, 2004). Earlier studies also discovered that as the number of years in the profession one completed increased, the greater the negative perception about inclusion increased (Center, 1993; Tallent, 1986).

This section focused on the attitudes and perceptions of teachers as it related to their perceptions about inclusion in schools. Inclusive education implies that all students in a school should be treated as equal members of the school society. The federal Individual with Disabilities Education and its 1997 amendments made it clear that schools have the responsibility to educate children with disabilities in regular education classrooms (Burke & Sutherland, 2004). Teachers' attitudes as well as the various characteristics that exist between them need to be examined to understand better the development of inclusive practices. Despite the varying findings, including students with disabilities in regular education classrooms is a very common practice in school across America. While no single elucidation exists to guide its approach, inclusion is a major component of a successful school. Burke and Sutherland (2004) stated: "successful implementation of an inclusion program depends on the attitudes of those who will work most closely with the students involved" (p. 164). Regular education teachers' attitudes toward including students with disabilities in regular education classrooms are the main

key in successful inclusion. Although no clear cut method exists to provide to teachers, researchers, administrators, parents, and teachers must continue to seek ways in which they can carry out the goal of an equal and equitable school community.

The History of Multicultural Education

As schools become more and more diverse, the need to educate the different ethnic, racial, cultural, and religious students in our public schools becomes a grave concern. Dillon (2006) reported that students of color exceed the number of White students in California, Hawaii, Louisiana, Mississippi, New Mexico, and Texas. While the student demographics in our schools become more diverse, preservice and inservice teachers remain to be from White, middle class backgrounds (Irvine, 2003). Students who speak a different language other than English and the number of religious sects also have increased in schools across the country. To respond to this trend, Banks (2008) states: “teachers and administrators need a sophisticated grasp of concepts, principles, theories, and practices in multicultural education” (p.x).

Just as the case with inclusion, the history of multicultural education is large and complex. Much of the multicultural education movement that we see today is linked directly to the early ethnic studies scholars such as George Washington Williams, W. E. B. DuBois, Carter G. Woodson, Horace Mann Bond, and Charles C. Wesley. “The major architects of the multicultural education movement were cogently influenced by African-American scholarship and ethnic studies related to the other ethnic minority groups in the United States” (Banks, 1993, p.18). Gaining influence from the abovementioned authors, scholars such as Gwendolyn C. Baker, James A. Banks, Geneva Gay, and Carl

A. Grant began to contribute to the formulation and development of multicultural education in the United States (Banks, 1993). Writers in other ethnic groups such as Carlos E. Cortes (Mexican Americans), Jack D. Forbes (American Indians), Sonia Nieto (Puerto Ricans), and Derald W. Sue (Asian Americans) also played early and significant roles in the development of multicultural education (Banks, 1993). Through these scholars, the need for multicultural education began when educators and professors of teacher education curriculums started calling for the history and culture of ethnic minority groups that was told through the perspectives of the abovementioned authors. Ideally enough, these “ethnic studies” were the first phase of multicultural education.

The second phase of multicultural education began when the same educators, who were interested in ethnic studies, began to realize that incorporating ethnic content into the school and teacher education curriculum, was essential “but not sufficient to bring about school reform that would respond to the unique needs of ethnic minority students and help all students to develop more democratic racial and ethnic attitudes” (Banks, 1993, p. 20). “Multiethnic education” (p.20), the second phase of multicultural education, emerged with its goal, striving bring about structural and universal changes in the total school that were designed to promote an equitable education.

A third phase of multicultural education came about when other underrepresented groups who viewed themselves as outsiders of the society and the schools, such as women and people with disabilities, commanded the inclusion of their histories, cultures, and voices into the curriculum and structure of the schools, colleges, and universities (Banks, 1993).

Today, multicultural education is an educational reform movement designed to “restructure curriculum and educational institutions so that students from diverse social-class, racial, and ethnic groups—as well as both gender groups—will experience equal educational opportunities (Banks, 2008, p.135). Although the history of multicultural education has its roots as an ethnic and gender specific movement, the goal of multicultural education has evolved so that all students, “ including White, male, and middle class students” (p.8), acquire the knowledge, skills, and mind-set needed to function successfully in an ever changing culturally and ethnically diverse country (Banks, 2008).

Dimensions of Multicultural Education

In discussing multicultural education, one would be remiss not to expound upon the many dimensions of multicultural education. One of the major problems that has caused the multicultural education movement to pause ...“from both within and without” (p.30) is the misconception of the multiple dimensions of multicultural education. Although the concept of multicultural education has never changed, many people still often times get caught up on focusing on one of its many dimension. Banks (2008) states:

Some teachers view it only as the inclusion of content about ethnic groups into the curriculum; others view it as prejudice reduction; still others view it as the celebration of ethnic holidays and events. Some educators view it as a movement to close the achievement gap between White mainstream students and low-income students of color (p.30).

The dimensions of multicultural education are (1) content integration, (2) the knowledge construction process, (3) prejudice reduction, (4) an equity pedagogy, and (5) an empowering school culture and social structure (see Figure 1).

Content Integration

Content integration involves the degree to which educators' uses a variety of sources from various cultures to promote learning in their respective disciplines. Content integration allows educators to become integrators of multicultural perspectives.

However, Banks (2008) warns us of not progressing much farther in the total dimensions of multicultural education:

In many school districts as well as in popular writings, multicultural education is viewed only (or primarily) as content integration. This narrow conception of multicultural education is a major reason that many teachers in subjects such as biology, physics, and mathematics believe that multicultural education is irrelevant to them and their student (p.31).

It is important for all teachers to realize that by only implementing one dimension of multicultural education into a curriculum could have damaging effects to the way other educators see the possibility of integrating multicultural education in their classes.

The Knowledge Construction Process

The knowledge construction process “describes the procedures by which social, behavioral, and natural scientist create knowledge and how the cultural assumptions, frames of reference, perspectives, and biases within a discipline influence the ways that

knowledge is constructed within it” (Banks, 2008, p.31). The knowledge construction process of a multicultural education curriculum is critical because of the responsibility of the educator to assist students in understanding how (1) knowledge is created and (2) how factors such as race, ethnicity, gender, and social class position affects the construction of information.

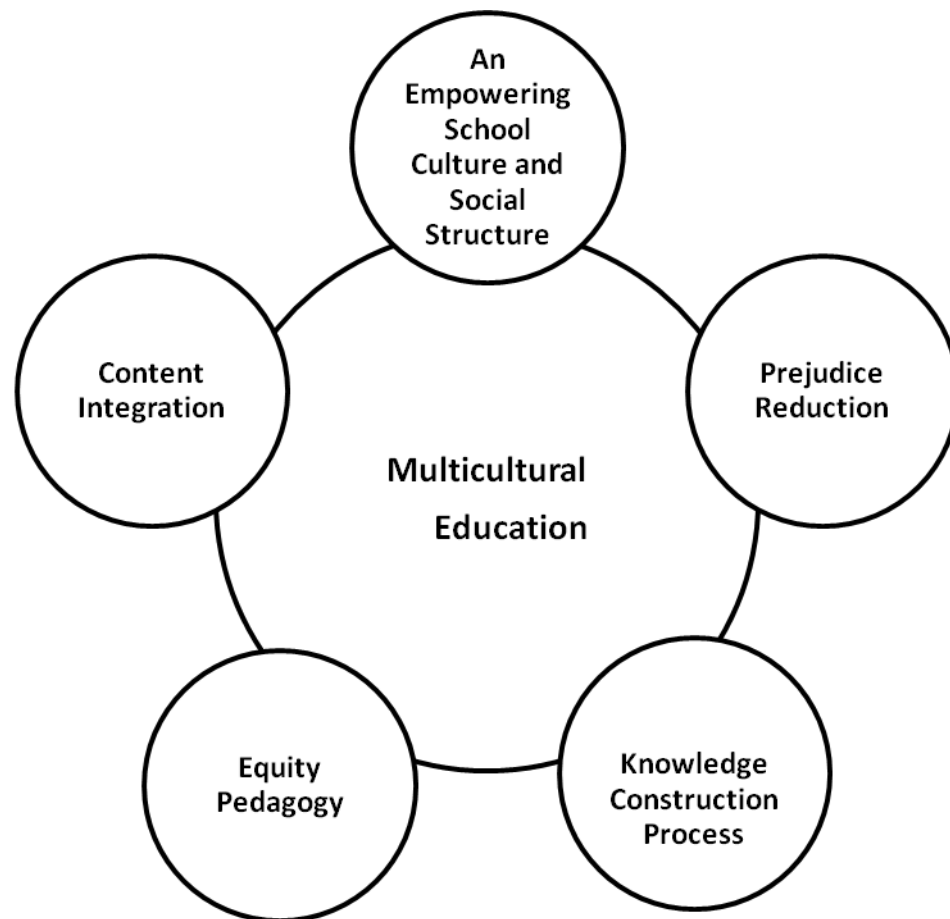


Figure 1. The Dimensions of Multicultural Education.

Reprinted with the permission of James A. Banks from James A. Banks (2008), *An introduction to multicultural education* (4th ed.). Boston: Allyn and Bacon, page 32.

Prejudice Reduction

The prejudice reduction dimension of multicultural education deals with the educators' responsibility to demystify preconceived racial notions that may be held by students. Prejudice reduction challenges both the student and the teacher to develop positive racial, ethnic, cultural, and religious attitudes. Banks (2008) states:

By the age four, African American, White, and Mexican American children are aware of racial differences and often make racial preferences that are biased towards Whites. Students can be helped to develop more positive racial attitudes if realistic images of ethnic and racial groups are included in teaching materials in a consistent, natural, and integrated fashion. Involving students in vicarious experiences and in cooperative learning activities with students of other racial groups will also help them to develop more positive racial attitudes and behaviors (p. 34).

Equity Pedagogy

An equity pedagogy occurs when teachers use teaching styles that accommodates all the students in a class. "Research indicates that teachers can increase the classroom participation and academic achievement of students from different cultural and language groups by modifying their instruction so that it draws upon their cultural strengths" (Banks, 2008, p.35). Irvine (2003) states: "Competent teachers know how to employ multiple representations of knowledge that use students' everyday lived experiences to motivate and assist them in connecting new knowledge to home, community, and global settings" (p.46). A competent teacher knows how to bridge "the gap between the known

(student's personal cultural knowledge) and the unknown (materials and concepts to be mastered)" (p.46).

An Empowering School Culture and Social Structure

Banks (2008) states: "An empowering school culture and social structure describes the process of restructuring the culture and organization of the school so that students from diverse racial, ethnic, language, and social class groups will experience educational equality an empowerment"(p.35). Teachers and administrators play an important role in ensuring that their respected schools are infusing strategies and techniques that makes certain all students have equitable education. Enhancing the schools social structure in the efforts to create total student success should be the most critical part in guaranteeing a culturally responsive school. To do this, school personnel will have to hold each other accountable for the advance of equal opportunities for success for all.

Culturally Responsive Teaching

Highlighting the dimensions of multicultural education is critical in developing an equitable educational setting. As part of the education for all students, the need for teachers to communicate effectively to all students is the pinnacle to quality classroom instruction. However, as it has been the case for many years, communication with ethnically diverse students is often problematic for many teachers (Gay, 2000). Over these years, researchers have been attempting to demystify the complexity of this paradigm. Improving the success of students of color..."requires comprehensive knowledge, unshakable convictions, and high-level pedagogical skills" (Gay, 2000,

p.xvii). If schools are serious about attaining the high expectations for academic success with all students, then most educators will have to transform their perceptions and teaching techniques to match the students in their classroom. Scheurich and Skrla (2003) propose that: “one area upon which such professional development should rightly focus is on building understanding and expertise in the area of culturally responsive teaching” (p.48). In addition, Golden (2007) states: “through multicultural education, culturally relevant teaching is a way to teach for academic success and social justice” (p.25).

“Because students’ ways of knowing and perceiving are influenced by culture, culture is a critical variable in how students learn and how teachers teach” (Irvine, 2003, p.67).

Culturally responsive teaching is an educational process by which educators uses cultural knowledge, prior experiences, frames of reference, and performance styles of ethnically diverse students (i.e., students of color) to foster more relevant and effective learning encounters (Gay, 2000). Additionally, culturally responsive teaching teaches what Gay (2000) call “*to and through*” the strengths of ethnically diverse students. Gay (2000) also affirms that culturally responsive teaching has the following characteristics:

- It acknowledges the legitimacy of the cultural heritages of different ethnic groups, both as legacies that affect students’ dispositions, attitudes, and approaches to learning and as worthy content to be taught in the formal curriculum.
- It builds bridges of meaningfulness between home and school experiences as well as between academic abstractions and lived sociocultural realities.

- It uses a wide variety of instructional strategies that are connected to different learning styles.
- It teaches students to know and praise their own and each others' cultural heritages.
- It incorporates multicultural information, resources, and materials in all the subjects and skills routinely taught in school (p.29).

Additionally, Irvine (2003) contends that culturally responsive teachers “contextualize” the act of teaching and addresses the immediate needs and cultural experiences of the students:

1. Culturally responsive teachers spend more classroom and non-classroom time developing a personal relationship with their students of color. These relationship-building exchanges are recurrent and spontaneous daily events.
2. They listen nonjudgementally and patiently to their students and allow them to share personal stories and anecdotes during classroom time. Similarly, they also share stories about their personal lives.
3. They wait longer for students to respond, and probe, prompt, praise, and encourage more lavishly than do their professional peers. Consequently, the pacing, timing, and coverage of material are different from prescribed methods.

4. They use an abundance of interactive techniques, such as acceptance of students' ideas, frequent feedback, demonstrations, explanations, questions, rephrases, reviews, drills, recitations, monitoring, individualizing, summarizing, and reinforcing. The pace is brisk and the activities varied.
5. They seize the "teachable moment." These teachers listen to the voices of their students and use their current concerns, and even catastrophic events, as opportunities to teach. Hence the content of the curriculum is teachers determined and not measurement driven.
6. They understand the interplay of instructional context and culture. Thus they examine their actions, instructional goals, methods, and materials in reference to their students' cultural experiences and preferred learning environment rather than the requirements of standardized test.
7. They probe the school, community, and home environments, searching for insights into their diverse students' abilities, preferences, and motivations.
8. They understand and appreciate students' personal cultural knowledge and use their students' prior knowledge and culture in teaching by constructing and designing relevant cultural metaphors and images in an effort to bridge the gap between what students know and appreciate and new knowledge or concepts to be mastered (pp.67-68).

Villegas and Lucas (2002) assert that to successfully move beyond the disjointed and superficial treatment of diversity that exist (in the field of teacher education), a systematically guided “infusion of multicultural issues” (p.21) must happen. This infusion process entails teacher educators to examine and assess the current curriculum and make the necessary revisions that will allow for a more diversity-centered approach. Through readings, observations, and work with preservice teachers, Villegas and Lucas identified six significant characteristics that define the culturally responsive teacher:

Such a teacher (a) is socioculturally conscious, that is, recognizes that there are multiple ways of perceiving reality and that these ways are influenced by one’s location in the social order; (b) has affirming views of students from diverse backgrounds, seeing resources for learning in all students rather than viewing differences as problems to be overcome; (c) sees himself or herself as both responsible for and capable of bringing about educational change that will make schools more responsive to all students; (d) understands how learners construct knowledge and is capable of promoting learners’ knowledge construction; (e) knows about the lives of his or her students; and (f) uses his or her knowledge about students’ lives to design instruction that builds on what they already know while stretching them beyond the familiar (Villegas & Lucas, 2002, p.21)

Villegas and Lucas (2002) also contend that culturally responsive teachers have a big sociocultural consciousness, hold affirming views of students of diverse backgrounds, see themselves as agents of change, understand and embrace constructivist views of learning and teaching, and know the students in their classes. These teachers

design their classrooms using philosophies and methods that respect, value, and use the strengths of students' home cultures, context, and languages to positively transform the learning process (Scheurich & Skrla, 2003).

Culturally responsive teaching is critical for the success of students of color (and for those teachers who teach these students) in public schools. The need for proficient skill building in this area is critical given the fact that teacher expectations significantly influence the quality of learning opportunities provides to students (Gay, 2000).

Educators cannot continue to be unaware of the many differences that exist in their classrooms and school grounds. A continuation of ignorance about equitable pedagogy and cultural differences will ultimately persist in “imposing cultural hegemony, personal denigration, educational inequity, and academic underachievement” (Gay, 2000, p.25) upon ethnically diverse students.

Conceptual Framework

The conceptual framework that will guide this research is based upon the concept of diversity inclusion. As stated earlier, diversity inclusion is an educational philosophy that welcomes all learners by actively engaging them in secondary agricultural education programs regardless of their race, ethnicity, or exceptionality. As a concept, diversity inclusion is based upon three constructing themes: inclusion, multicultural education, and culturally responsive teaching. In order for agricultural educators to attain a diversity inclusive program, all three areas must be addressed.

The Diversity Inclusive Program Model (see Figure 2) is an illustration that guides the concept of diversity inclusion. As previously mentioned, diversity inclusion

encompasses multicultural education, inclusion, and culturally responsive teaching in a three part model that highlights the critical infusion in which a diversity inclusive program should exist. Teachers and programs that exist within this area have positive perceptions about (1) the benefits of diversity inclusion; (2) understand that, because of past perceptions, whether it be from students, teachers, or external factors (i.e. friends, coworkers, parents, etc.) there may lie pre-existing barriers as to why these particular students are underrepresented in agricultural education, and (3) have an awareness of possible solutions to increase underrepresented group participation in agricultural education. In addition, teachers who are receptive to a diversity inclusive program have become allies to those who understand that the future success of agricultural education will be determined by how prepared our agricultural educators are in teaching students of color and students with disabilities in our classrooms. The over arching goal of the program model is to formulate an educational culture and classroom structure that all students, regardless of racial, ethnic, language, social class, physical, or mental ability, will experience social equity and equitable education.

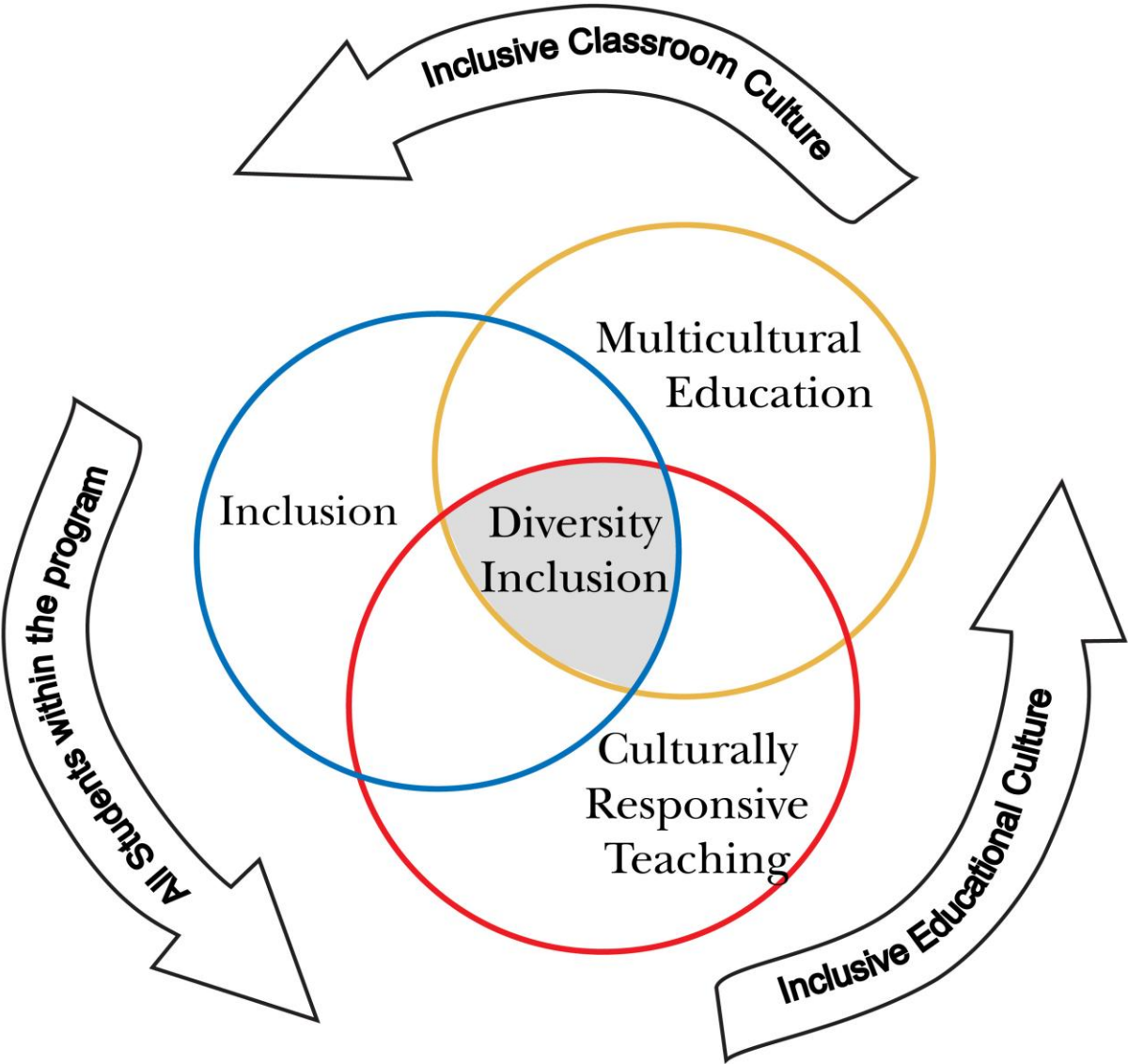


Figure 2. The Diversity Inclusive Program Model.

Chapter Summary

In this chapter, the history of inclusion, teachers' perceptions of inclusion, the history of multicultural education, and culturally responsive teaching was examined to provide a review of literature related to the problem of this study. The literature revealed that the preexisting stages of inclusion were evident during civil rights movement and the struggle for freedom and equality for people of color in the 1800s and early 1900s. The 1950s, 1960s, and 1970s was a significant time in the advocacy and advancement which resulted in legislative and court actions such as the Elementary and Secondary Education Act of 1965, the passage of Section 504 of the Rehabilitation Act in 1973, and the Education for All Handicapped Children Act of 1975 (now known as the Individuals with Disabilities Act). In the 1980s and the mid 1990s, individuals with disabilities and their families formed support and advocacy groups that advanced public guidelines that permitted individuals with disabilities to become full and equal members of society. As time progressed, amendments and reauthorization of the abovementioned laws began to acknowledge and accommodate individuals with disabilities throughout our public schools and society.

As we shifted focus, teacher perceptions about inclusion in classrooms were identified to highlight the state of teachers' idea towards student with disabilities in regular education classrooms. Throughout the literature we saw that the perceptions of educators towards inclusion were mixed at best. Personal characteristics such as gender and experience were examined for variations amongst the profession. Based upon the literature reviewed, the researcher discovered that there was no emerging theme among

the profession as it related to teacher perceptions of inclusion. It should also be noted that there were very few studies that focused on agricultural educators perceptions of inclusive practices as well. This is a cause for concern considering the fact that in Texas, special education students represented 19% of total student enrollment in agricultural education where as total secondary school enrollment of special education student were on 14% (TEA, 2008b).

The history of multicultural education can be traced back to three prominent phases for which the roots of this entity started. The first phase of multicultural education can be directly linked to early ethnic studies scholars such as George Washington Williams, W. E. B. DuBois, Carter G. Woodson, Horace Mann Bond, and Charles C. Wesley. These originators were heavily involved by African- American scholarship and ethnic studies related to the other ethnic minority groups during the later part of the 19th century. Later, other authors (Gwendolyn C. Baker, James A. Banks, Geneva Gay, and Carl A. Grant) began to contribute to the field as well. The second phase of multicultural education began when educators, who were interested in ethnic studies, began to realize that by adding ethnic content into the school and teacher education curriculum would be critical in developing attitudes and perceptions of all people toward racial and ethnic studies. The third phase of multicultural education arose when other underrepresented groups, such as women and people with disabilities, demanded that their stories and struggles be included as well. Today, multicultural education is an educational reform movement that is geared toward creating equal and

equitable school curriculums and structure for all students to learn about every race, ethnicity, culture, and lifestyle.

Banks was the major architect for creating the dimensions of multicultural education. Banks' model was instrumental in understanding the major components of multicultural education. The five dimensions are (1) content integration, (2) the knowledge constructing process, (3) prejudice reduction, (4) equity pedagogy, and (5) an empowering school culture and social structure (Banks, 2008).

In addition to multicultural education, culturally responsive teaching is the process by which educators uses cultural knowledge, prior experiences, frames of reference, and performance styles of ethnically diverse students (i.e. students of color) to foster more relevant and effective learning encounters (Gay, 2000). Researchers such as Geneva Gay and Jacqueline Jordan-Irvine identified numerous factors that culturally responsive teachers possessed. Additionally, Villegas and Lucas (2002) identified important factors that existed among culturally responsive teaching. Through the review of literature, one can conclude that culturally responsive teaching is essential to diversity inclusion. Through multicultural education, culturally responsive teaching is the medium by which the movement must take place.

Through a methodical review of literature, a conceptual model was developed to explain the idea of diversity inclusion. The Diversity Inclusion Program Model incorporates inclusion, multicultural education, and culturally responsive teaching. Through the blending of these three constructs, an educational philosophy and setting is

developed and maintained to promote equal classroom and school curriculums that accommodate every student.

Based upon the literature reviewed, the variables of interest were the perceptions of Texas secondary agricultural education teachers regarding diversity inclusion in secondary agricultural education programs. In order to formally assess these perceptions, teacher beliefs must be assessed.

CHAPTER III

METHODS AND PROCEDURES

Purpose and Objectives of Study

The purpose of this study was to explore and analyze Texas secondary agricultural education teachers' attitudes toward diversity inclusion in Texas secondary agricultural education programs. A secondary purpose was to explore relationships between selected variables including teaching area, age, gender, teaching experience, preservice diversity/multicultural training, inservice diversity/multicultural training, ethnicity, or school setting. Additionally, the following objectives were identified to accomplish the purpose of this study:

1. To identify personal characteristics of the selected Texas secondary agricultural science teachers;
2. To describe Texas secondary agricultural education teachers' perceptions of the benefits of diversity inclusion in Texas secondary agricultural education programs;
3. To describe Texas secondary agricultural education teachers' perceptions of the barriers to diversity inclusion in Texas secondary agricultural education programs;
4. To determine Texas secondary agricultural education teachers' perceptions of proposed solutions to increase diversity inclusion in Texas secondary agricultural education programs; and

5. To determine if relationships exist between and among selected personal variables, benefits of diversity inclusion, barriers to diversity inclusion, and solutions to increase diversity inclusion.

Furthermore, the following null and alternative hypotheses were developed to accomplish the purpose of this study:

Hypotheses

Null Hypotheses

- Ho₁: No difference exists in Texas secondary agricultural education teachers' perceptions of the benefits of diversity inclusion in the presence of teaching area, age, gender, teaching experience, preservice diversity/multicultural training, inservice diversity/multicultural training, ethnicity, or school setting.
- Ho₂: No difference exists in Texas secondary agricultural education teachers' perceptions of the barriers of diversity inclusion in the presence of teaching area, age, gender, teaching experience, preservice diversity/multicultural training, inservice diversity/multicultural training, ethnicity, or school setting.
- Ho₃: No difference exists in Texas secondary agricultural education teachers' perceptions of proposed solutions to increase diversity inclusion in the presence of teaching area, age, gender, teaching experience, preservice diversity/multicultural training, inservice diversity/multicultural training, ethnicity, or school setting.

Alternative Hypotheses

- Ha₁: A difference will exist in Texas secondary agricultural education teachers' perceptions of the benefits of diversity inclusion in the presence of teaching area, age, gender, teaching experience, preservice diversity/multicultural training, inservice diversity/multicultural training, ethnicity, or school setting.
- Ha₂: A difference will exist in Texas secondary agricultural education teachers' perceptions of the barriers to diversity inclusion in the presence of teaching area, age, gender, teaching experience, preservice diversity/multicultural training, inservice diversity/multicultural training, ethnicity, or school setting.
- Ha₃: A difference will exist in Texas secondary agricultural education teachers' perceptions of proposed solutions to increase diversity inclusion in the presence of teaching area, age, gender, teaching experience, preservice diversity/multicultural training, inservice diversity/multicultural training, ethnicity, or school setting.

Research Design

The research design used in this study was a descriptive and correlational design. Gall, Gall, and Borg (2007) wrote “descriptive research, in quantitative research, is a type of investigation that measures the characteristics of a sample or population on prespecified variables” (p.638). These researchers also reported that descriptive research has uncovered important information about opinions, attitudes, and practices. The purpose of this study was to explore and analyze Texas secondary agricultural education teachers' attitudes toward diversity inclusion in Texas secondary agricultural education

programs. Due to the nature of schools, sensitivity of the subject and the large size of the population and state, the researcher deemed a qualitative approach impractical. The conceptual framework for this study was based upon the Diversity Inclusive Program Model as presented in chapter II. Due to the sensitive nature of human research, the Texas A&M University Institutional Review Board (IRB) determined that the research protocol (2008-0313) used for this study met the criteria for exemption and no further review was required to start the questionnaire implementation process (Appendix A).

Pilot Test

The researcher conducted a pilot study on April 15, 2008, involving 15 master's and doctoral students enrolled in the spring 2008 section of Agricultural Education 630, Guidance and Counseling of Rural Youth. Participants were asked to complete all sections of the questionnaire and to make side notes to statements that concerned readability, intent of statement, text font, or general format. The length of time required to complete the questionnaire was approximately 10 minutes. The researcher solicited suggestions and recommendations for the questionnaire from the group. After pilot testing, the researcher analyzed the questionnaire responses using SPSS® for Windows™ statistical package. Reliability was estimated by calculating a Cronbach's alpha coefficient. The reliability analysis coefficients for the three constructs were Benefits = .75, Barriers = .73, and Solutions = .90. Content and face validity were established by a panel of experts with expertise in diversity and inclusion. Construct validity was established through factor analysis.

Population and Sample

The target population consisted of all Texas secondary agricultural education teachers as listed by the Texas Education Agency during the 2006-2007 school year ($N=1,732$). Because of the unavailability of personal information from the Texas Education Association, access to all 1,732 agricultural education teachers listed by Texas Education Association was not feasible. The accessible population of the study consisted of all Texas secondary agricultural education teachers that had email addresses listed on JudgingCard.com website. At the time of selection, 1,500 Texas agricultural education teachers were listed. Therefore, those teachers who had e-mail addresses listed on JudgingCard.com were used because this was the most reflective representation of Texas agricultural education teachers available. To ensure that all 1,500 teachers listed on the website were agricultural science teachers in Texas, cross referencing was used with the Vocational Agriculture Teachers Association of Texas (VATAT) membership roster to ensure validity. Of the 1,500 members who were listed as Texas agricultural science teachers on the JudgingCard.com website, all were members of VATAT during the 2007-2008 membership year. This method of obtaining participants was deemed the most valid, thus giving the researcher a greater increase in generalizing the results of this study to the entire population.

Because of the large size of the population and the inaccessibility of all agricultural education teachers in Texas, the researcher determined that a census study was impractical; therefore, a nonproportional stratified random sampling was used. The sample size was determined using a sampling formula from Bartlett, Kotrlik and Higgins

(2001). This formula allowed the researcher to attain a practical sample size based upon a set alpha level *a priori* (.05), a set margin of error (5%) and a set estimate of standard deviation (1.17).

Nonproportional stratified random sampling techniques were employed to determine the levels of subgroups within the sample to be selected. Gall, Gall, and Borg (2007) wrote that a nonproportional stratified random sample is “a stratified random sample in which the number of individuals in one or more subgroups in the sample is not proportion to their representation in the population” (p.646). Gall, Gall, and Borg (2007) further explained that this approach is acceptable; however, when making generalizations, one must use caution not to generalize to the entire group because it does not represent accurately the proportional composition of the population. For research purposes, the researcher decided that all 10 administrative areas as defined by the Texas FFA Association would be proportionally represented in the study. Within each administrative area, 32 teachers were selected randomly among each Area (n=320). Once selected, mailing and e-mail addresses were retrieved from the VATAT membership roster and the JudgingCard.com roster.

Dillman (2007) identified four sources of survey errors that can affect survey research: (a) sampling error, (b) coverage (frame) error, (c) measurement error, and (d) nonresponse error. To address these threats, the following techniques were used:

1. Sampling error: The researcher used a nonproportional stratified random sampling technique to ensure an equal proportion of participants would be selected randomly from each area of the state. Because sampling error in

survey research is manifest, a basis for reducing sampling error was deemed unfeasible; therefore, generalizing the conclusions, results, and implications of this study beyond the sample is inappropriate.

2. Coverage error: Because of the unavailability of personal information from the Texas Education Association, access to all 1,732 agricultural education teachers listed by Texas Education Association was not attainable. To reduce coverage error, the researcher used the most comprehensive list of Texas agricultural science teachers available.
3. Measurement error: Content and face validity were employed to ensure that participants could respond to the questionnaire in an accurate and interpretable manner.
4. Nonresponse error: The handling on nonrespondents is explained later in the chapter.

Instrumentation

Survey participants completed a web-based, four-part questionnaire (Appendix J) developed by the researcher and hosted on SurveyMonkey.com. The questionnaire was based on previous work by Warren and Alston (2007) concerning diversity and inclusion perceptions of North Carolina agricultural education teachers. Permission to use and modify the instrument was granted (Appendix B). The questionnaire was designed following accepted social science practices and social exchange theory (Dillman, 2007). Part one (*Benefits*) consisted of 12 statements designed to gauge participants' perceptions toward diversity inclusion in secondary agricultural education programs.

Part two (*Barriers*) of the questionnaire contained 12 statements designed to measure participants' perceptions on the perceived barriers to diversity inclusion in secondary agricultural education programs. Part three (*Solutions*) consisted of 12 statements designed to gauge participants' perceptions on possible strategies or solutions that would promote diversity inclusion in secondary agricultural education programs. Part four consisted of eight items designed to collect demographic information on the agricultural education teachers. Teachers responded to each question using a four point, summated or Likert-type scale: 1= strongly disagree, 2= disagree, 3= agree, and 4= strongly agree. The researcher used a four point scale to encourage participants to respond to the statements favorably or unfavorably.

With the popularity of the Internet and e-mail, digital research using e-mail or Web-surveys has become very common (Dillman, 2007). Ladner, Wingenbach, and Raven (2002) wrote: "Today, Web-based surveying has become a major information source for all researchers" (p. 41). Kiernan, Kiernan, Oylar, and Gilles (2005) reported that "a Web survey appears to be as effective as a mail survey in the completion of quantitative questions that measure knowledge, attitudes, behaviors, and intentions" (p. 250). One major weakness of web-based research is coverage error (sample population not having e-mail/internet access). This weakness was addressed because all Texas public school teachers should have valid e-mail addresses through district websites and access to the Internet (Lynne Krejevski, Personal communication, 2008). Schonlau, Fricker, and Elliot (2002) wrote that Internet surveys should be considered the target population if affiliated with an organization that provides e-mail address. The

researchers also stated that this population should be a large group. The population and sample selected for this study addresses both criteria.

Campbell and Stanley (1963) identified eight threats to internal validity of a research study: (a) history; (b) maturation; (c) testing; (d) instrumentation; (e) statistical regression; (f) selection; (g) mortality; and (h) selection-maturation interaction. To address these threats, the researcher used the following techniques:

1. **History:** In this study, the questionnaire was administered during July and August so that teachers could not base their perceptions on students that had not been in their classes for an entire school year. Because of the design of the study, teachers reflecting on their prior experiences of being an agricultural teacher in a public secondary school was important. The timeline dissemination of the questionnaire was used to control for history in an educational setting. However, because of the nature of the relationships between students and teachers, history is a threat to internal validity.
2. **Maturation:** The researcher collected data for the respondents in the shortest time possible, thus attempting to eliminate the possibility of maturation.
3. **Testing:** Participants were allowed to complete the questionnaire one time only. Testing does not occur in this study.
4. **Instrumentation:** Because the study used only one questionnaire, the extraneous variable of instrumentation is not a threat to internal validity.
5. **Statistical regression:** Because the study used only one questionnaire, the extraneous variable of statistical regression is not a threat to internal validity.

6. Differential selection: Because of the non-experimental design of the study, differential selection is not a threat to internal validity.
7. Experimental mortality: Participants responding to the questionnaire and not completing it in its entirety could not be controlled. Therefore, experimental mortality is a threat to internal validity.
8. Selection-maturation interaction: Because the participants were measured simultaneously, selection-maturation is not a threat to internal validity.

External validity, identified by Campbell and Stanley (1963), include interaction and testing of experimental variable, interaction of selection and experimental variable, and reactive arrangements. The above mentioned experimental effects would be considered external threats when the experimental variable is not specific to populations subject to repeated tests. However, in this particular study, an experimental variable between participants was not used. Therefore, in order for external validity to be a threat, a quasi or true experiment design would have to be implemented. Reactive effects are those effects attributed to individuals knowingly being part of an experiment (Campbell & Stanley, 1963). Reactive effects are considered an external threat to validity when participants respond differently because of their knowledge of the study or experiment. Agricultural science teachers in this study have been exposed to many studies in their preservice and in-service teaching experience. The researcher projected that reactive effect is not a threat to external validity.

Data Collection

Following Dillman's (2007) *Tailored Designed Method* for survey implementation, the researcher implemented this questionnaire using a series of seven mailings while using SurveyMonkey.com as the host Web site. All letters and e-mail notifications followed Dillman's format for designing cover letters as well.

On June 30, 2008, the researcher mailed a pre-notice/introductory letter to 320 agricultural education teachers. The letter (Appendix C) explained the purpose and importance of the study and informed the teachers that they had been selected randomly to participate. The letter informed the teachers that they would receive an e-mail in about one week with instructions on how to complete the questionnaire. At the time of the first e-mail, 31 e-mail addresses were invalid. The researcher searched district websites and contacted school personnel to obtain valid e-mail address. Once corrected, the e-mail was re-sent and deemed valid. Because of the nature of teacher contracts in the state of Texas, not all agricultural education teachers are employed on a 12-month basis. Consequently, a possibility existed that some e-mail accounts probably would go unchecked. Taking this into consideration, the researcher determined that a mailed pre-notice/introductory letter (instead of an e-mailed pre-notice/introductory letter) would suffice because it would allow the researcher to reach all agricultural education teachers regardless of their contract status.

On Monday, July 7, 2008, the researcher sent the first notification e-mail to 320 agricultural education teachers. The notification letter (Appendix D) served as an introduction to the study and as a reminder to inform participants of the importance of

their participation in the study. The letter also contained the Internet link to the questionnaire. On July 10, 2008, a second reminder (Appendix E) was sent via e-mail to the sample population. The letter thanked those participants who had completed the study and encouraged those who had not yet participated to complete the questionnaire. Because of the increased speed of web-based research, the time between the pre-notice letter and the initial questionnaire was reduced to days rather than weeks (Schaefer & Dillman, 1998; Frazee, Hardin, Brashears, Haygood & Smith, 2003). However, for the remainder of the data collection phase, the researcher sent reminder e-mails (Appendices F through H) each Monday until the study was concluded on August 21, 2008. All weekly e-mail reminders followed Dillman's method as previously mentioned with the exception of the final letter which explained that access to the questionnaire would be closed on Thursday, August 21, 2008 (Appendix I).

Handling Non-Response Error

According to Lindner, Murphy, and Briers (2001), the three proposed methods of handling nonresponse error are (a) comparison of early to late respondents, (b) using "days to respond" as a regression variable, and (c) comparison of respondents to nonrespondents. In order to address nonresponse error, the researcher compared respondents to nonrespondents by comparing participants who completed the questionnaire before the deadline ($n=195$) to those that completed the questionnaire after the closing date ($n=37$). Using the cutoff date as the independent variable and mean scores as the dependent variable, independent sample t-tests revealed that no statistically significant difference ($p < .05$) existed between respondents' mean scores on the three

constructs; therefore, the responding sample was deemed a representative sample of the accessible population.

Analysis of Data

The researcher analyzed data using SPSS® for Windows™ statistical package. An alpha level of $p < .05$ was set *a priori* to determine statistical significance for all analyses. Analysis of Variance (ANOVA) was used to compare various subjects (independent variables) on scaled variables (dependent variables). If ANOVA was statistically significant, Tukey’s post-hoc means test was used to determine which of the group means were different from others. Coolidge (2006) stated Tukey’s post-hoc test is “a popular multiple comparison test, considered neither too liberal nor too conservative, that maintains the Type I error rate regardless of the number of means to be compared” (p. 269). To assess the magnitude of statistical differences, effect sizes were calculated, interpreted, and reported (Cohen, 1988). Table 1 lists interpretations for effect size. Interpretations for ANOVA were based on Cohen’s Conversion also.

Table 1
Cohen Conversion for Magnitude of Effect Size

Effect Size (d)	Description
$d \geq .80$	Large effect Size
$d \geq .50$ to .79	Medium effect size
$d \geq .20$ to .49	Small effect size
$d < .19$	Negligible effect Size

Objective One

The first objective was to identify personal characteristics of the selected Texas secondary agricultural science teachers. Descriptive statistics (frequencies and percentages by levels of response) were used for reporting the demographic and personal characteristics of respondents.

Objective Two

The second objective was to describe Texas secondary agricultural education teachers' perceptions of the benefits of diversity inclusion in Texas secondary agricultural education programs. To satisfy this objective, overall sample frequencies, counts, and percentages were generated first, and then the data were split according to selected groupings by the researcher. Mean scores, and standard deviations were used to quantify statements based upon participants' perceptions toward the benefits of diversity inclusion.

Objective Three

The third objective was to describe Texas secondary agricultural education teachers' perceptions of the barriers of diversity inclusion in Texas secondary agricultural education programs. To satisfy this objective, overall sample frequencies, counts, and percentages were generated first, and then the data were split according to selected groupings by the researcher. Mean scores and standard deviations were used to quantify statements based upon participants' perceived barriers toward diversity inclusion in secondary agricultural education programs.

Objective Four

The fourth objective was to determine Texas secondary agricultural education teachers' perceptions of proposed solutions to increase diversity inclusion in Texas secondary agricultural education programs. To satisfy this objective, overall sample frequencies, counts, and percentages were generated first, and then the data were split according to selected groupings by the researcher. Mean scores and standard deviations were used to quantify statements based upon participants' perceptions of proposed solutions to increase diversity inclusion in Texas secondary agricultural education programs.

Objective Five

The fifth objective was to determine if relationships existed among agricultural education teachers' selected demographic and personal characteristics, their perceptions of benefits toward diversity inclusion, perceived barriers toward diversity inclusion, and proposed solutions to increase diversity inclusion in secondary agricultural education programs. Correlation statistics were used to determine the relationships between selected variables as described by objective five. Pearson's Product-Moment coefficient of correlation was used to determine the degree of relationships between the variables. Davis (1971) presented a guide (Table 2) of coefficient values and the magnitude of relationships.

Table 2
Correlation Coefficients Values and Relationships

Correlation Coefficients (r)	Description
.70 or higher	Very Strong Association
.50 to .69	Substantial Association
.30 to .49	Moderate Association
.10 to .29	Low Association
.01 to .09	Negligible Association

CHAPTER IV

RESULTS AND DISCUSSION

Purpose and Objectives of Study

The purpose of this study was to explore and analyze the attitudes of Texas secondary agricultural education teachers toward diversity inclusion in Texas secondary agricultural education programs. A secondary purpose was to explore relationships between selected variables including teaching area, age, gender, teaching experience, preservice diversity/multicultural training, inservice diversity/multicultural training, ethnicity, or school setting. Additionally, the following objectives were identified to accomplish the purpose of this study:

1. To identify personal characteristics of the selected Texas secondary agricultural science teachers;
2. To describe Texas secondary agricultural education teachers' perceptions of the benefits of diversity inclusion in Texas secondary agricultural education programs;
3. To describe Texas secondary agricultural education teachers' perceptions of the barriers to diversity inclusion in Texas secondary agricultural education programs;
4. To determine Texas secondary agricultural education teachers' perceptions of proposed solutions to increase diversity inclusion in Texas secondary agricultural education programs; and

5. To determine if relationships exist between and among selected personal variables, benefits of diversity inclusion, barriers to diversity inclusion, and solutions to increase diversity inclusion.

Hypotheses

The following null and alternative hypotheses were developed to guide this study.

Null Hypotheses

- Ho₁: No difference exists in Texas secondary agricultural education teachers' perceptions of the benefits of diversity inclusion in the presence of teaching area, age, gender, teaching experience, preservice diversity/multicultural training, inservice diversity/multicultural training, ethnicity, or school setting.
- Ho₂: No difference exists in Texas secondary agricultural education teachers' perceptions of the barriers of diversity inclusion in the presence of teaching area, age, gender, teaching experience, preservice diversity/multicultural training, inservice diversity/multicultural training, ethnicity, or school setting.
- Ho₃: No difference exists in Texas secondary agricultural education teachers' perceptions of proposed solutions to increase diversity inclusion in the presence of teaching area, age, gender, teaching experience, preservice diversity/multicultural training, inservice diversity/multicultural training, ethnicity, or school setting.

Alternative Hypotheses

- Ha₁: A difference will exist in Texas secondary agricultural education teachers' perceptions of the benefits of diversity inclusion in the presence of teaching area, age, gender, teaching experience, preservice diversity/multicultural training, inservice diversity/multicultural training, ethnicity, or school setting.
- Ha₂: A difference will exist in Texas secondary agricultural education teachers' perceptions of the barriers of diversity inclusion in the presence of teaching area, age, gender, teaching experience, preservice diversity/multicultural training, inservice diversity/multicultural training, ethnicity, or school setting.
- Ha₃: A difference will exist in Texas secondary agricultural education teachers' perceptions of proposed solutions to increase diversity inclusion in the presence of teaching area, age, gender, teaching experience, preservice diversity/multicultural training, inservice diversity/multicultural training, ethnicity, or school setting.

This chapter presents the results obtained in this study. Results presented address hypotheses of this study that examine the perceptions of Texas secondary agricultural education teachers' perceptions of the benefits of diversity inclusion, perceptions of the barriers of diversity inclusion, and perceptions of proposed solutions to increase diversity inclusion in secondary agricultural education programs. Results also are presented which explore the relationship between selected variables including teaching area, age, gender, teaching experience, preservice diversity/multicultural training, inservice diversity/multicultural training, ethnicity, or school setting.

Population Response

The accessible population of the study consisted of all Texas secondary agricultural education teachers that had email addresses listed on JudgingCard.com website ($N=1500$). For research purposes, 32 teachers were selected randomly from each of the 10 Agricultural Science and Technology Supervisory Areas within the state ($n=320$). During July 7, 2008 – August 21, 2008, 232 (72.5%) teachers responded. The researcher analyzed data for normalcy (SPSS procedure descriptive, explore) and determined that all data were usable (100%).

Comparison of Early Versus Late Respondents

To address nonresponse error, the researcher compared respondents to nonrespondents by comparing participants who completed the questionnaire before the deadline ($n=195$) to those that completed the questionnaire after the closing date ($n=37$) (Lindner, Murphy, and Briers, 2001). The cutoff date was identified as the independent variable and mean scores for the three scales were identified as the dependent variable. Table 3 shows that no statistically significant differences existed between respondents' mean scores on the three scales (*Benefits*, $t(230) = 0.27$, $p < .05$, $r = .06$, *Barriers*, $t(220) = 0.06$, $p < .05$, $r = .00$, *Solutions*, $t(215) = 0.20$, $p < .05$, $r = .01$) of the questionnaire. Therefore, the researcher deemed the responding sample a representative sample of the accessible population as well as eliminated nonresponse as a threat to external validity.

Table 3
Early versus Late Response for the Three Constructs of the Benefits, Barriers, and Solutions Scales

Scale	Returned Status	<i>n</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>p</i>
Benefits	Early	195	3.35	.490	.267	.789
	Late	37	3.33	.460		
Barriers	Early	185	2.82	.368	.056	.955
	Late	37	2.83	.428		
Solutions	Early	180	2.91	.486	.199	.842
	Late	37	2.89	.491		

Note. Scale: 1.00 to 1.49 = Strongly Disagree, 1.50 to 2.49 = Disagree, 2.50 to 3.49 = Agree, 3.50 to 4.00 = Strongly Agree.

Findings Related to Objective One

The first objective was to identify personal characteristics of the selected Texas secondary agricultural science teachers.

Teaching Area

Table 4 illustrates the distribution of participating agricultural education teachers ($N=232$) by administrative areas as described by the Texas FFA Association. Among the participants who responded, 13 (6.0%) were from Area I; 19 (8.8%) from Area II; 21 (9.7%) from Area III; 22 (10.2%) from Area IV; 27 (12.5%) from Area V; 25 (11.6%) from Area VI; 25 (11.6%) from Area VII; 25 (11.6%) from Area VIII; 19 (8.8%) from Area IX; and 20 (9.3%) from Area X. Sixteen participants chose not to respond to this question.

Table 4
Distribution of Participating Teachers by Administrative Area (N=232)

Area	<i>f</i>	%
I	13	6.0
II	19	8.8
III	21	9.7
IV	22	10.2
V	27	12.5
VI	25	11.6
VII	25	11.6
VIII	25	11.6
IX	19	8.8
X	20	9.3
Total	216	100

Note. 16 participants chose not to respond to this question.

Age

Table 5 shows the dispersion of participants ($N=232$) by age reported. Fifty-three participants (25.4%) were under 30 years old; 30 (14.4%) were between 30 and 34 years of age; 27 (12.9%) were between 35 and 39 years of age; 27 (12.9%) were between 40 and 44 years of age; 52 (24.9%) were between 45 and 54 years of age; and 20 (9.6%) were more than 54 years old. The youngest age reported was 23 years old while the oldest age reported was 65 years old. The average age of participants was 39 years old. Twenty-three participants chose not to respond to this question.

Table 5
Age of Agricultural Education Teachers (N=232)

Age Group	<i>f</i>	%
<30	53	25.4
30-34	30	14.4
35-39	27	12.9
40-44	27	12.9
45-54	52	24.9
>54	20	9.6
Total	209	100

Note. $M=39.36$, $SD= 10.72$. 23 participants chose not to respond to this question.

Gender

Table 6 illustrates the gender composition of the study's participants. Of the respondents, 79.1% (170) were male, while 20.9% (45) were female.

Table 6
Gender of Agricultural Education Teachers (N=232)

Gender	<i>f</i>	%
Male	170	79.1
Female	45	20.9
Total	215	100.0

Note. 17 participants chose not to respond to this question.

Teaching Experience

Table 7 reflects the teaching experience of the study's participants. Forty-eight participants (22.3%) had less than five years teaching experience. Fifty-two (24.2%) had between 5 and 10 years of teaching experience. Thirty-two (14.9%) had between 11 and 15 years of teaching experience. Twenty-four (11.2%) had between 16 and 20 years of teaching experience. Twenty-seven (12.6%) had between 21 and 25 years of teaching

experience. Thirty-two (14.9%) had more than 25 years of teaching experience.

Seventeen participants chose not to respond to this question.

Table 7
Years of Teaching Experience of Agricultural Education Teachers (N=232)

Years of Teaching	<i>f</i>	%
<5	48	22.3
5-10	52	24.2
11-15	32	14.9
16-20	24	11.2
21-25	27	12.6
>25	32	14.9
Total	215	100

Note. 17 participants chose not to respond to this question.

Preservice Diversity/Multicultural Training

Table 8 reflects the number of participants who indicated that they received some form of diversity/multicultural experience during their undergraduate curriculum at their perspective college or university. Sixty-eight participants (31.6%) indicated that they received some form of diversity/multicultural training during their undergraduate matriculation while 147 (68.4%) indicated that they did not receive any form of diversity/multicultural training during their undergraduate matriculation. Seventeen participants chose not to respond to this question.

Table 8
Respondents who Received Diversity/Multicultural Training During Their Undergraduate Matriculation (N=232)

Preservice Training	<i>f</i>	%
Yes	68	31.6
No	147	68.4
Total	215	100.0

Note. 17 participants chose not to respond to this question.

Diversity/Multicultural Training Outside of a College/University Requirement

Table 9 reflects the number of participants who indicated that they received some form of diversity/multicultural experience outside of a college/university requirement.

One hundred participants (46.5%) indicated that they received some form of diversity/multicultural outside of a college/university requirement, while 115

participants (53.5%) indicated that they had not received any form of

diversity/multicultural training outside of a college/university requirement. Seventeen participants chose not to respond to this question.

Table 9
Respondents who Received Diversity/Multicultural Training Outside of a College/University Requirement (N=232)

Received Training	<i>f</i>	%
Yes	100	46.5
No	115	53.5
Total	215	100.0

Note. 17 participants chose not to respond to this question.

Race/Ethnicity

Table 10 reflects the racial/ethnic distribution of the sample. Participants in the study were described as Asian American, Black/African American, Hispanic/Latino American, Native American, or White/European American. The majority (90.5%) of the respondents indicated that they were White/European American, while the second largest percentage (6.2%) of respondents identified themselves as Hispanic/Latino Americans. Four (1.9%) participants identified themselves as Native Americans. Less than 1% of the sample identified themselves as either African American (0.9%) or Asian American (0.5%). Twenty-one participants chose not to respond to the question.

Table 10
Race/Ethnicity of Teachers (N=232)

Race/Ethnicity	<i>f</i>	%
Asian American	1	0.5
Black/African American	2	0.9
Hispanic/Latino American	13	6.2
Native American	4	1.9
White/European American	191	90.5
Total	211	100

Note. 21 participants chose not to respond to this question.

School Setting

Table 11 shows the school settings of the agricultural education teachers. A large percentage (62.8%) of teachers indicated that their school was located in a rural setting while the second largest percentage (22.3%) was suburban. Only 14.9% of teachers indicated that they taught in an urban secondary agricultural education school setting. Seventeen participants chose not to respond to this question.

Table 11
School Setting of Teachers (N=232)

Setting	<i>f</i>	%
Rural	135	62.8
Suburban	48	22.3
Urban	32	14.9
Total	215	100

Note. 17 participants chose not to respond to this question.

Findings Related to Objective Two

The second objective was to describe Texas secondary agricultural education teachers' perceptions of the benefits of diversity inclusion in Texas secondary agricultural education programs. Data are reported by the three subdivisions that comprise the overall construct of the *Benefits* scale. Reliability was estimated by calculating a Cronbach's alpha coefficient. The reliability analysis coefficient for this scale was .96. To facilitate reporting of the results, the researcher established a scale to guide the interpretation of the responses to the individual items. This scale was developed to coincide with the response categories provided to the participants and included the following categories: 1.00 to 1.49 = Strongly Disagree; 1.50 to 2.49 = Disagree; 2.50 to 3.49 = Agree; and 3.50 to 4.00 = Strongly Agree.

Participants responded to 12 items regarding their perceived benefits of diversity inclusion in secondary agricultural education programs. Table 12 depicts the means and standard deviations for the perceived benefits of diversity inclusion as they relate to students of color and students with disabilities in agricultural education. Additionally,

responses relating to the benefits of diversity inclusion among the school community and other programs across the state were reported.

Table 12
Perceptions of Benefits Toward Diversity Inclusion in Agricultural Education Programs (N=232)

Diversity Inclusion	Item	<i>M</i>	<i>SD</i>
Students of Color	There are benefits for the inclusion of students of color in agricultural education programs.	3.42	.617
	Providing students of color with leadership development opportunities will have a positive impact on agricultural education programs.	3.45	.596
	Providing students of color with career success opportunities will have a positive impact on agricultural education programs.	3.42	.568
	Diversity inclusion can improve social relationships between White students and students of color in agricultural education.	3.38	.602
	I believe diversity inclusion helps students of color improve academically.	3.26	.607
Students with Disabilities	There are benefits for the inclusion of students with disabilities in agricultural education programs.	3.30	.557
	Providing students with disabilities with leadership development opportunities will have a positive impact on agricultural education programs.	3.33	.575

Table 12. (Continued)

Diversity Inclusion	Item	<i>M</i>	<i>SD</i>
Diversity Inclusion Among School and Community	Diversity inclusion can improve social relationships between students with and without disabilities in agricultural education.	3.39	.572
	I believe diversity inclusion helps students with disabilities improve academically.	3.24	.583
	Diversity inclusion in my agricultural education program can have a positive impact on other programs across the state.	3.29	.592
	The inclusion of diverse populations in agricultural education is a benefit for the entire school community.	3.46	.572

Note. Scale: 1.00 to 1.49 = Strongly Disagree, 1.50 to 2.49 = Disagree, 2.50 to 3.49 = Agree, 3.50 to 4.00 = Strongly Agree.

As shown in Table 12, the sample agreed on all statements regarding the benefits of diversity inclusion in agricultural education programs. With the exception of one statement (“Diversity inclusion can improve social relationships between students with and without disabilities in agricultural education”), items involving students with disabilities received lower mean scores than those involving students of color. The items with which participants scored the highest mean score involving students of color was, “Providing students of color with leadership development opportunities will have a positive impact on agricultural education programs” ($M = 3.45$, $SD = .596$). The statement

in which participants scored the highest mean score involving students with disabilities was, “Diversity inclusion can improve social relationships between students with and without disabilities in agricultural education” ($M= 3.39, SD = .572$). In relationship to diversity inclusion among the school and community, respondents agreed that “Diversity inclusion in agricultural education could have a positive impact on other programs across the state” ($M =3.29, SD = .592$) and “The inclusion of diverse populations in agricultural education is a benefit for the entire school community” ($M =3.46, SD = .572$). To summarize the information further regarding the perceptions of the benefits toward diversity inclusion, the researcher computed an overall mean score from the 12 items in the scale. The overall mean of the total group was 3.34 ($SD = .484$).

Findings Related to Objective Three

The third objective was to describe Texas secondary agricultural education teachers' perceptions of the barriers of diversity inclusion in Texas secondary agricultural education programs, as measured by the *Barriers* scale. Reliability was estimated by calculating a Cronbach's alpha coefficient. The reliability analysis coefficient for this scale was .75. To facilitate reporting of the results, the researcher established a scale to guide the interpretation of the responses to the individual items. This scale was developed to coincide with the response categories provided to the participants and included the following categories: 1.00 to 1.49 = Strongly Disagree; 1.50 to 2.49 = Disagree; 2.50 to 3.49 = Agree; and 3.50 to 4.00 = Strongly Agree. Data are reported by the three subdivisions that make up the overall construct of the scale.

The study's participants responded to 12 items regarding their perceptions on the perceived barriers to diversity inclusion in secondary agricultural education programs. Table 13 depicts the means and standard deviations of the statements. The statement in which participants scored the highest mean score involving students of color was, "Parental attitudes about agricultural education play an important role in students' of color decisions to enroll in agricultural education" ($M = 3.24, SD = .629$). The statement in which participants scored the highest mean score involving students with disabilities was: "A lack of role models hinders the participation of students with disabilities in agricultural education" ($M = 2.77, SD = .692$). The statements with which the respondents disagreed included: "Negative stereotypes are a primary reason why students with disabilities do not enroll in agricultural classes" ($M = 2.44, SD = .728$) and "Improper classroom modifications are a barrier to diversity inclusion for students with disabilities in agricultural education" ($M = 2.48, SD = .665$). In relation to program and FFA demographics, respondents agreed that "The student demographics of my agricultural program reflect the demographics of my school" ($M = 3.03, SD = .768$) and "The student demographics of my FFA organization reflect the demographics of my school" ($M = 2.88, SD = .826$). Overall, participants agreed with 10 items and disagreed with two items. To summarize the information further regarding the perceptions of the barriers toward diversity inclusion, the researcher computed an overall mean score from the 12 items in the scale. The overall mean of the total group was 2.82 ($SD = .378$).

Table 13
Perceived Barriers Toward Diversity Inclusion in Agricultural Education Programs
 (N=232)

Diversity Inclusion	Item	M	SD
Students of Color	A lack of role models hinders the participation of students of color in agricultural education.	2.96	.717
	Negative stereotypes are a primary reason why students of color do not enroll in agricultural classes.	2.79	.787
	The perception of agriculture itself influences the participation of students of color in agricultural education.	2.86	.659
	Acceptance by peers is a barrier to diversity inclusion by students of color in agricultural education.	2.91	.657
	The lack of information about agricultural education has an impact on students of color perceptions of agricultural education.	3.02	.663
	Parental attitudes about agricultural education play an important role in students of color decisions to enroll in agricultural education.	3.24	.629
Students with Disabilities	A lack of role models hinders the participation of students with disabilities in agricultural education.	2.77	.692
	Negative stereotypes are a primary reason why students with disabilities do not enroll in agricultural classes.	2.44	.728
	The perception of agriculture itself influences the participation of students with disabilities in agricultural education.	2.68	.657

Table 13. (Continued)

Diversity Inclusion	Item	<i>M</i>	<i>SD</i>
	Improper classroom modifications are a barrier to diversity inclusion for students with disabilities in agricultural education.	2.48	.665
Program and FFA Demographics	The student demographics of my agricultural program reflect the demographics of my school.	3.03	.768
	The student demographics of my FFA organization reflect the demographics of my school.	2.88	.826

Note. Scale: 1.00 to 1.49 = Strongly Disagree, 1.50 to 2.49 = Disagree, 2.50 to 3.49 = Agree, 3.50 to 4.00 = Strongly Agree.

Findings Related to Objective Four

The fourth objective was to determine Texas secondary agricultural education teachers' perceptions of proposed solutions to increase diversity inclusion in Texas secondary agricultural education programs as measured by the *Solutions* scale. The researcher estimated reliability by calculating a Cronbach's alpha coefficient. The reliability analysis coefficient for this scale was .93. To facilitate reporting of the results, the researcher established a scale to guide the interpretation of the responses to the individual items. This scale was developed to coincide with the response categories provided to the participants and included the following categories: 1.00 to 1.49 = Strongly Disagree; 1.50 to 2.49 = Disagree; 2.50 to 3.49 = Agree; and 3.50 to 4.00 = Strongly Agree. Data are reported by the three subdivisions that make up the overall construct of the scale.

Participants in the study responded to 12 items regarding their perceptions on possible strategies or solutions that would promote diversity inclusion in secondary agricultural education programs. Table 14 depicts the means and standard deviations of the statements. The statement in which participants scored the highest mean score involving multicultural education was, “Teaching materials should reflect a diverse society in agricultural education ” ($M = 2.98, SD = .646$). The statement in which participants scored the highest mean score involving agricultural teachers was: “Agricultural educators should encourage and strive to increase students of color membership in FFA” ($M = 3.09, SD = .665$). In relation to statewide initiatives, respondents agreed that “For all students to achieve in school, educators, parents, and policymakers must develop strategies to address the different learning styles of all students” ($M = 3.33, SD = .633$) and “A state-wide support network for agricultural educators would enhance diversity inclusion in agricultural education” ($M = 2.72, SD = .730$). To summarize the information further regarding the proposed solutions that would promote diversity inclusion in secondary agricultural education programs, the researcher computed an overall mean score from the 12 items in the scale. The overall mean for the total group was 2.90 ($SD = .485$).

Table 14
Proposed Solutions to Increase Diversity Inclusion in Agricultural Education Programs
 (N=232)

Diversity Inclusion	Item	M	SD
Multicultural Education	Secondary agricultural education teachers need training in multicultural education.	2.64	.769
	Multicultural education is a strategy that can be utilized to promote an attitudinal change toward diversity inclusion in secondary agricultural education.	2.78	.698
	It is important for colleges and universities to incorporate more multicultural education classes in their preservice teacher preparation curriculums.	2.68	.775
	Multicultural education can be used to increase the awareness of students with disabilities in relation to diversity.	2.86	.660
	Multicultural education can be used to increase the awareness of students of color in relation to diversity.	2.91	.618
	Teaching materials should reflect a diverse society in agricultural education.	2.98	.646
Agricultural Teachers	Agricultural education teachers should become familiar with the students of color represented in their classrooms in order to promote an atmosphere of acceptance and cooperation.	3.06	.648
	Mentoring is a strategy that could be utilized to increase diversity inclusion in secondary agricultural education.	2.92	.599
	An increase in recruitment efforts by agricultural educators would enhance diversity inclusion in agricultural education.	2.95	.657

Table 14. (Continued)

Diversity Inclusion	Item	<i>M</i>	<i>SD</i>
	Agricultural educators should encourage and strive to increase students of color membership in FFA.	3.09	.665
Statewide Initiatives	For all students to achieve in school, educators, parents, and policymakers must develop strategies to address the different learning styles of all students.	3.33	.633
	A state-wide support network for agricultural educators would enhance diversity inclusion in agricultural education.	2.72	.730

Note. Scale: 1.00 to 1.49 = Strongly Disagree, 1.50 to 2.49 = Disagree, 2.50 to 3.49 = Agree, 3.50 to 4.00 = Strongly Agree.

Findings Related to Objective Five

The fifth objective was to determine if relationships existed among agricultural education teachers' selected personal characteristics with the three scales of the questionnaire. Additionally, correlations were examined in order to see if any significant relationships were found among the personal variables collectively. Pearson's Product-Moment coefficient of correlation was used to determine the degree of relationships between the variables. Davis (1971) presented a guide (Table 15) of coefficient values and the magnitude of relationships.

Table 15
Correlation Coefficients Values and Relationships

Correlation Coefficients (r)	Description
.70 or higher	Very Strong Association
.50 to .69	Substantial Association
.30 to .49	Moderate Association
.10 to .29	Low Association
.01 to .09	Negligible Association

Correlation Coefficients of Personal Variables with Scales

Appropriate statistical procedures were used to measure the relationships between participants' personal variables with the three scales. Tables 16 through 19 depict the correlation coefficients for the three scales and eight personal variables. Statistically significant relationships found among the variables are described with a significance ($p < .05$) value less than .05.

Benefits of Diversity Inclusion

Results of these correlations indicated no statistically significant relationship between participants' personal variables and the *Benefits* scale. Therefore, no personal variables were found to be statistically significantly related to participants mean scores on the *Benefits* scale.

Table 16
Correlations of Personal Variables with Benefits Scale (N=232)

Benefits of Diversity Inclusion	Coefficient	Relationship
Personal Variables		
Area	.04	Negligible
Age	.03	Negligible
Gender	.08	Negligible
Years Teaching	.05	Negligible
Preservice Diversity/Multicultural Training	.05	Negligible
Inservice Diversity/Multicultural Training	.01	Negligible
Race/Ethnicity	.12	Negligible
School Setting	.10	Low

Note. * denotes that correlation is statistically significant at $<.05$

Barriers to Diversity Inclusion

Table 17 depicts the relationship between personal variables and its relationship to the *Barriers* scale. A statistically significant, low relationship was found between race/ethnicity and the scale ($r = .20, p <.01$). Further results indicate no statistically significant relationship between the other personal variables.

Table 17
Correlations of Personal Variables with Barriers Scale (N=232)

Barriers to Diversity Inclusion	Coefficient	Relationship
Personal Variables		
Area	.02	Negligible
Age	.09	Negligible
Gender	.05	Negligible
Years Teaching	.02	Negligible
Preservice Diversity/Multicultural Training	.07	Negligible
Inservice Diversity/Multicultural Training	.04	Negligible
Race/Ethnicity	.20**	Low
School Setting	.01	Negligible

Note. * denotes that correlation is significant at $<.05$,

** denotes that correlation is statistically significant at $<.01$

Solutions to Increase Diversity Inclusion

Table 18 illustrates the relationship between personal variables and its relationship to the *Solutions* scale. There was a statistically significant, low relationship between a person's gender and mean score ($r = .14, p < .05$), a statistically significant, low relationship between a person's race/ethnicity and mean score ($r = .26, p < .01$), and a statistically significant, low relationship between a person's school setting and mean score ($r = .14, p < .05$). Further results indicated no statistically significant relationships between the variables and the scale.

Table 18
Correlations of Personal Variables with Solutions Scale (N=232)

Solutions to Increase Diversity Inclusion	Coefficient	Relationship
Personal Variables		
Area	.01	Negligible
Age	.05	Negligible
Gender	.14*	Low
Years Teaching	.09	Negligible
Preservice Diversity/Multicultural Training	.03	Negligible
Inservice Diversity/Multicultural Training	.03	Negligible
Race/Ethnicity	.26**	Low
School Setting	.14*	Low

Note. * denotes that correlation is significant at $< .05$

** denotes that correlation is statistically significant at $< .01$

Table 19 shows the relationship between the personal variables of the study. Correlations were examined in order to see if any statistically significant relationship existed. Results of these correlations indicate that there was a statistically significant relationship between the variables of age and gender ($r = .33, p < .01$); a statistically significant relationship between the variables of age and years teaching ($r = .84, p < .01$);

and a statistically significant relationship between the variables of age and preservice diversity/multicultural training ($r = .16, p < .05$). Results also indicated a statistically significant relationship between the personal variables of gender and years of teaching, $r = .29, p < .05$, while the personal variables of gender and school setting had a statistically significant relationship ($r = .19, p < .01$). The personal variables of years teaching and preservice diversity/multicultural training also had a statistically significant relationship, $r = .22, p < .05$. A statistically significant relationship was also found between the personal variables of inservice diversity/multicultural training and school setting, $r = .14, p < .05$.

Table 19
Correlations of Personal Variables in Study (N=232)

Personal Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Area (1)	1	.01	.06	.01	.02	.02	.08	.03
Age (2)		1	.33**	.84**	.16*	.01	.07	.12
Gender (3)			1	.29**	.07	.07	.02	.19**
Years Teaching (4)				1	.22**	.06	.03	.07
Preservice Diversity/Multicultural Training (5)					1	.11	.05	.02
Inservice Diversity/Multicultural Training (6)						1	.01	.14*
Race/Ethnicity (7)							1	.13
School Setting (8)								1

Note. * denotes that correlation is significant at $< .05$

** denotes that correlation is statistically significant at $< .01$

Tests of Hypotheses

Hypothesis testing in this study was conducted using a series of independent samples t-test and Analysis of Variances (ANOVA). Analysis of Variance

(ANOVA) was used to compare various subjects (independent variables) on scaled variables (dependent variables). If ANOVA was statistically significant, Tukey's post-hoc means test was used to determine which of the group means were different from others. To assess the magnitude of statistical differences, effect sizes were calculated, interpreted, and reported (Cohen, 1988). Interpretations for effect size are listed in Chapter III (see Table 1). An alpha level of .05 was set *a priori* to determine statistical significance.

Null Hypothesis One

Null hypothesis stated no difference exists in Texas secondary agricultural education teachers' perceptions of the benefits of diversity inclusion in the presence of teaching area, age, gender, teaching experience, preservice diversity/multicultural training, inservice diversity/multicultural training, ethnicity, or school setting. This hypothesis was tested using a combination of independent samples t-test and the ANOVA procedure.

Teaching Area

A one-way analysis of variance (ANOVA) was used to compare participants' perceptions of the benefits of diversity inclusion in Texas secondary agricultural education programs by teaching areas of the state. As seen in Table 20, there was a statistically significant difference in mean scores among participants, $F(9, 206) = 2.31$, $p < .05$. A large effect size was found ($r = .92$). A Tukey's post-hoc analysis showed that Area 7 teachers ($M = 3.53$, $SD = .421$) had statistically significant higher mean *Benefits*

scores than did Area 9 teachers ($M = 3.04$, $SD = .637$). No other statistically significant differences were found among the other mean scores.

Table 20
ANOVA Table of Overall Benefits Scores by Teaching Area

	<i>n</i>	<i>M</i>	<i>SD</i>	<i>F</i>	<i>p</i>
Teaching Area					
I	13	3.49	.449	2.310	.017*
II	19	3.11	.348		
III	21	3.35	.417		
IV	22	3.34	.486		
V	27	3.32	.500		
VI	25	3.33	.414		
VII	25	3.53	.421		
VIII	25	3.40	.519		
IX	19	3.04	.637		
X	20	3.50	.432		

Note. Scale: 1.00 to 1.49 = Strongly Disagree, 1.50 to 2.49 = Disagree, 2.50 to 3.49 = Agree, 3.50 to 4.00 = Strongly Agree.

* denotes that *p* is statistically significant at $<.05$

Age

Table 21 shows the analysis of variance between participants' perceptions of the benefits of diversity inclusion among age groups. Results indicate that there was no statistically significant difference among the age groups, $F(5, 203) = .825$, $p < .05$. A negligible effect size ($r = .02$) was found.

Table 21
ANOVA Table of Overall Benefits Scores by Teaching Age

	<i>n</i>	<i>M</i>	<i>SD</i>	<i>F</i>	<i>p</i>
Age					
<30	53	3.39	0.55	.825	.533
30-34	30	3.29	0.41		
35-39	27	3.32	0.63		
40-44	27	3.46	0.46		
45-54	52	3.27	0.41		
>54	20	3.40	0.40		

Note. Scale: 1.00 to 1.49 = Strongly Disagree, 1.50 to 2.49 = Disagree, 2.50 to 3.49 = Agree, 3.50 to 4.00 = Strongly Agree.

Gender

The t-test procedure was used to determine if difference existed in the perceptions of the benefits of diversity inclusion by gender of participants. Results of the comparison show that there were no statistically significant difference by the category of gender, $t(213) = 1.14, p < .05$ (See Table 22). Females had a composite mean score of 3.41 ($SD = .576$) while males had a composite mean score 3.32 ($SD = .452$). A negligible effect size ($r = < .01$) was found.

Table 22
Comparison of Benefits Scale by Gender

Gender	<i>n</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>p</i>
Female	45	3.41	.576	1.14	.254
Male	170	3.32	.452		

Note. Scale: 1.00 to 1.49 = Strongly Disagree, 1.50 to 2.49 = Disagree, 2.50 to 3.49 = Agree, 3.50 to 4.00 = Strongly Agree.

Teaching Experience

A one –way analysis of variance (ANOVA) was used to compare participants’ perceptions of the benefits of diversity inclusion in Texas secondary agricultural education programs by teaching experience. As seen in Table 23, there was no statistically significant difference in mean scores among participants, $F(5, 209) = .525$, $p < .05$. A negligible effect size was found ($r = .01$).

Table 23
ANOVA Table of Overall Benefits Scores by Teaching Experience

	<i>N</i>	<i>M</i>	<i>SD</i>	<i>F</i>	<i>p</i>
Years of Teaching					
<5	48	3.35	.552	.525	.757
6-10	52	3.42	.413		
11-15	32	3.27	.611		
16-20	24	3.30	.433		
21-25	27	3.35	.418		
>25	32	3.30	.425		

Note. Scale: 1.00 to 1.49 = Strongly Disagree, 1.50 to 2.49 = Disagree, 2.50 to 3.49 = Agree, 3.50 to 4.00 = Strongly Agree.

Preservice Diversity/Multicultural Training

The t-test procedure was used to determine if difference existed in the perceptions of the benefits of diversity inclusion based on preservice diversity/multicultural training received. Results indicate that there was not a statistically significant difference ($t(213) = .726$, $p < .05$) between mean scores of participants who received preservice diversity/multicultural training and those that did not (See Table 24). A negligible effect size ($r = < .01$) was found.

Table 24
Comparison of Benefits Scale by Preservice Diversity/Multicultural Training Received

Preservice Diversity/Multicultural Training	<i>n</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>p</i>
Yes	68	3.30	.486	.726	.468
No	147	3.36	.481		

Note. Scale: 1.00 to 1.49 = Strongly Disagree, 1.50 to 2.49 = Disagree, 2.50 to 3.49 = Agree, 3.50 to 4.00 = Strongly Agree.

Inservice Diversity/Multicultural Training

The t-test procedure was used to determine if difference existed in the perceptions of the benefits of diversity inclusion based on inservice diversity/multicultural training received. Results indicate that there was no statistically significant difference ($t(213) = 1.99, p < .05$) between mean scores of participants who received inservice diversity/multicultural training and those that did not (See Table 25). A negligible effect size ($r = < .01$) existed.

Table 25
Comparison of Benefits Scale by Inservice Diversity/Multicultural Training Received

Inservice Diversity/Multicultural Training	<i>n</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>p</i>
Yes	100	3.33	.513	.199	.842
No	115	3.35	.455		

Note. Scale: 1.00 to 1.49 = Strongly Disagree, 1.50 to 2.49 = Disagree, 2.50 to 3.49 = Agree, 3.50 to 4.00 = Strongly Agree.

Race/Ethnicity

The t-test procedure was used to determine if difference existed in the perceptions of the benefits of diversity inclusion based on race/ethnicity. For this analysis, participants who identified their race/ethnicity as Asian American, Black/African-American, Hispanic/Latino American, or Native American were coded as

“yes”; participants who identified their race/ethnicity as White was coded as “no.”

Results indicate that there was no statistically significant difference ($t(209) = 1.76, p < .05$) between mean scores of teachers of color and White/European American teachers (See Table 26). A negligible effect size ($r = .02$) was found.

Table 26
Comparison of Benefits Scale by Teacher of Color Status

Teacher of Color	<i>n</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>p</i>
Yes	20	3.52	.416	1.76	.080
No	191	3.32	.485		

Note. Scale: 1.00 to 1.49 = Strongly Disagree, 1.50 to 2.49 = Disagree, 2.50 to 3.49 = Agree, 3.50 to 4.00 = Strongly Agree.

School Setting

A one –way analysis of variance (ANOVA) was used to compare participants’ perceptions of the benefits of diversity inclusion in Texas secondary agricultural education programs by school setting. By observing Table 27, the researcher was able to conclude there was no statistically significant difference in mean scores among participants, $F(2, 212) = 1.257, p < .05$. A negligible effect size existed ($r = .01$).

Table 27
ANOVA Table of Overall Benefits Scores by School Setting

	<i>n</i>	<i>M</i>	<i>SD</i>	<i>F</i>	<i>p</i>
School setting					
Rural	135	3.32	.449	1.257	.287
Suburban	48	3.33	.587		
Urban	32	3.46	.426		

Note. Scale: 1.00 to 1.49 = Strongly Disagree, 1.50 to 2.49 = Disagree, 2.50 to 3.49 = Agree, 3.50 to 4.00 = Strongly Agree.

Because of statistically significant ($p < .05$) differences found between the personal variables, the null hypothesis is rejected and can be concluded that there is a statistically significant difference in Texas secondary agricultural education teachers' perceptions of the benefits of diversity inclusion.

Null Hypothesis Two

Null hypothesis two stated no difference exists in Texas secondary agricultural education teachers' perceptions of the barriers to diversity inclusion in the presence of teaching area, age, gender, teaching experience, preservice diversity/multicultural training, inservice diversity/multicultural training, ethnicity, or school setting. This hypothesis was tested using a combination of independent samples t-test and the ANOVA procedure.

Teaching Area

A one-way analysis of variance (ANOVA) was used to compare participants' perceptions of the barriers to diversity inclusion in Texas secondary agricultural education programs by teaching areas of the state. As seen in Table 28, there was no statistically significant difference in mean scores among participants, $F(9, 206) = .856$, $p < .05$. A negligible effect size existed ($r = .04$).

Table 28
ANOVA Table of Overall Barriers Scores by Teaching Area

	<i>n</i>	<i>M</i>	<i>SD</i>	<i>F</i>	<i>p</i>
Teaching Area					
I	13	2.96	.299	.856	.566
II	19	2.80	.313		
III	21	2.82	.444		
IV	22	2.71	.360		
V	27	2.76	.304		
VI	25	2.90	.407		
VII	25	2.84	.324		
VIII	25	2.88	.426		
IX	19	2.75	.490		
X	20	2.89	.322		

Note. Scale: 1.00 to 1.49 = Strongly Disagree, 1.50 to 2.49 = Disagree, 2.50 to 3.49 = Agree, 3.50 to 4.00 = Strongly Agree.

Age

Table 29 shows the analysis of variance between participants' perceptions of the barriers to diversity inclusion among age groups. Results indicate that there was no statistically significant difference among the age groups, $F(5, 203) = 1.148, p < .05$. A negligible effect size ($r = .03$) existed.

Table 29
ANOVA Table of Overall Barriers Scores by Teaching Age

	<i>n</i>	<i>M</i>	<i>SD</i>	<i>F</i>	<i>p</i>
Age					
<30	53	2.78	.376	1.148	.336
30-34	30	2.79	.367		
35-39	27	2.94	.344		
40-44	27	2.81	.398		
45-54	52	2.83	.355		
>54	20	2.96	.453		

Note. Scale: 1.00 to 1.49 = Strongly Disagree, 1.50 to 2.49 = Disagree, 2.50 to 3.49 = Agree, 3.50 to 4.00 = Strongly Agree.

Gender

The t-test procedure was used to determine if difference existed in the perceptions of the barriers to diversity inclusion by gender of participants. Results of the comparison show that there were no statistically significant differences by the category of gender, $t(213) = .703$, $p < .05$ (See Table 30). Females had a composite mean score of 2.87 ($SD = .305$) while males had a composite mean score 2.82 ($SD = .391$). A negligible effect size ($r = <.01$) existed.

Table 30
Comparison of Barriers Scale by Gender

Gender	<i>n</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>p</i>
Female	45	2.87	.305	.703	.483
Male	170	2.82	.391		

Note. Scale: 1.00 to 1.49 = Strongly Disagree, 1.50 to 2.49 = Disagree, 2.50 to 3.49 = Agree, 3.50 to 4.00 = Strongly Agree.

Teaching Experience

A one-way analysis of variance (ANOVA) was used to compare participants' perceptions of the barriers to diversity inclusion in Texas secondary agricultural education programs by teaching experience. As seen in Table 31, there was no statistically significant difference in mean scores among participants, $F(5, 209) = .590$, $p < .05$. A negligible effect size existed ($r = .01$).

Table 31
ANOVA Table of Overall Barriers Scores by Teaching Experience

	<i>n</i>	<i>M</i>	<i>SD</i>	<i>F</i>	<i>p</i>
Years of Teaching					
<5	48	2.81	.387	.590	.707
5-10	52	2.82	.325		
11-15	32	2.87	.370		
16-20	24	2.79	.455		
21-25	27	2.93	.296		
>25	32	2.80	.432		

Note. Scale: 1.00 to 1.49 = Strongly Disagree, 1.50 to 2.49 = Disagree, 2.50 to 3.49 = Agree, 3.50 to 4.00 = Strongly Agree.

Preservice Diversity/Multicultural Training

The t-test procedure was used to determine if difference existed in the perceptions of the barriers to diversity inclusion based on preservice diversity/multicultural training received. Results indicate that there was not a statistically significant difference ($t(213) = 1.086, p < .05$) between mean scores of participants who received preservice diversity/multicultural training and those that did not (See Table 32). A negligible effect size ($r = < .01$) was found.

Table 32
Comparison of Barriers Scale by Preservice Diversity/Multicultural Training Received

Preservice Diversity/Multicultural Training	<i>n</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>p</i>
Yes	68	2.79	.370	1.086	.279
No	147	2.85	.362		

Note. Scale: 1.00 to 1.49 = Strongly Disagree, 1.50 to 2.49 = Disagree, 2.50 to 3.49 = Agree, 3.50 to 4.00 = Strongly Agree.

Inservice Diversity/Multicultural Training

The t-test procedure was used to determine if difference existed in the perceptions of the barriers to diversity inclusion based on inservice diversity/multicultural training received. Results indicate that there was no statistically significant difference ($t(213) = .519, p < .05$) between mean scores of participants who received inservice diversity/multicultural training and those that did not (See Table 33). A negligible effect size ($r = < .01$) existed.

Table 33

Comparison of Barriers Scale by Inservice Diversity/Multicultural Training Received

Inservice Diversity/Multicultural Training	<i>n</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>p</i>
Yes	100	2.84	.410	.519	.604
No	115	2.82	.343		

Note. Scale: 1.00 to 1.49 = Strongly Disagree, 1.50 to 2.49 = Disagree, 2.50 to 3.49 = Agree, 3.50 to 4.00 = Strongly Agree.

Race/Ethnicity

The t-test procedure was used to determine if difference existed in the perceptions of the barriers to diversity inclusion based on race/ethnicity. For this analysis, participants who identified their race/ethnicity as Asian American, Black/African-American, Hispanic/Latino American, or Native American were coded as “yes”; participants who identified their race/ethnicity as White was coded as “no.” Results indicate that there was a statistically significant difference ($t(209) = 3.01, p < .01$) between mean scores of teachers of color ($M = 3.07, SD = .528$) and White/European American teachers ($M = 2.81, SD = .350$) on the perceptions of the

barriers to diversity inclusion in secondary agricultural education programs (See Table 34). A negligible effect size ($r = .04$) existed.

Table 34
Comparison of Barriers Scale by Teacher of Color Status

Teacher of Color	<i>n</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>p</i>
Yes	20	3.07	.528	3.010	.003**
No	191	2.81	.350		

Note. Scale: 1.00 to 1.49 = Strongly Disagree, 1.50 to 2.49 = Disagree, 2.50 to 3.49 = Agree, 3.50 to 4.00 = Strongly Agree.

** denotes that *p* is statistically significant at $<.01$

School Setting

A one –way analysis of variance (ANOVA) was used to compare participants' perceptions of the barriers to diversity inclusion in Texas secondary agricultural education programs by school setting. By observing Table 35, the researcher concluded that no statistically significant difference in mean scores existed among participants, $F(2, 212) = .042, p <.05$. A negligible effect size existed ($r = <.01$).

Table 35
ANOVA Table of Overall Barriers Scores by School Setting

	<i>n</i>	<i>M</i>	<i>SD</i>	<i>F</i>	<i>p</i>
School setting					
Rural	135	2.83	.380	.042	.959
Suburban	48	2.81	.350		
Urban	32	2.82	.396		

Note. Scale: 1.00 to 1.49 = Strongly Disagree, 1.50 to 2.49 = Disagree, 2.50 to 3.49 = Agree, 3.50 to 4.00 = Strongly Agree.

Because of statistically significant ($p <.05$) differences found between the personal variables, the null hypothesis is rejected and the researcher concluded that a

statistically significant difference existed in Texas secondary agricultural education teachers' perceptions of the barriers to diversity inclusion in Texas secondary agricultural education programs.

Null Hypothesis Three

Null hypothesis stated no difference exists in Texas secondary agricultural education teachers' perceptions of proposed solutions to increase diversity inclusion in the presence of teaching area, age, gender, teaching experience, preservice diversity/multicultural training, inservice diversity/multicultural training, ethnicity, or school setting. This hypothesis was tested using a combination of independent samples t-test and the ANOVA procedure.

Teaching Area

A one-way analysis of variance (ANOVA) was used to compare participants' proposed solutions to increase diversity inclusion in Texas secondary agricultural education programs by teaching areas of the state. As seen in Table 36, no statistically significant difference existed in mean scores among participants, $F(9, 205) = .786, p < .05$. A negligible effect size existed ($r = .03$).

Table 36
ANOVA Table of Overall Solutions Scores by Teaching Area

	<i>n</i>	<i>M</i>	<i>SD</i>	<i>F</i>	<i>p</i>
Teaching Area					
I	13	2.94	.321	.786	.630
II	19	2.81	.299		
III	21	2.96	.708		
IV	22	2.81	.416		
V	27	3.03	.440		
VI	24	2.90	.304		
VII	25	2.98	.415		
VIII	25	2.87	.558		
IX	19	2.74	.624		
X	20	2.98	.566		

Note. Scale: 1.00 to 1.49 = Strongly Disagree, 1.50 to 2.49 = Disagree, 2.50 to 3.49 = Agree, 3.50 to 4.00 = Strongly Agree.

Age

Table 37 shows the analysis of variance between participants' perceptions of proposed solutions to increase diversity inclusion in Texas secondary agricultural education programs by age groups. Results indicate that no statistically significant difference existed among the age groups, $F(5, 202) = .900, p < .05$. A negligible effect size existed ($r = .02$).

Table 37
ANOVA Table of Overall Solutions Scores by Age

	<i>n</i>	<i>M</i>	<i>SD</i>	<i>F</i>	<i>p</i>
Age					
<30	53	2.99	.464	.900	.482
30-34	30	2.81	.488		
35-39	27	2.99	.547		
40-44	27	2.84	.483		
45-54	51	2.88	.466		
>54	20	2.95	.511		

Note. Scale: 1.00 to 1.49 = Strongly Disagree, 1.50 to 2.49 = Disagree, 2.50 to 3.49 = Agree, 3.50 to 4.00 = Strongly Agree.

Gender

The t-test procedure was used to determine if difference existed in the perceptions of proposed solutions to increase diversity inclusion in Texas secondary agricultural education programs by gender of participants. Results of the comparison show that a statistically significant difference existed by the category of gender, $t(213) = 2.050$, $p < .05$ (See Table 38). Females had a composite mean score of 3.04 ($SD = .539$) while males had a composite mean score 2.87 ($SD = .463$). A negligible effect size ($r = .02$) existed.

Table 38
Comparison of Solutions Scale by Gender

Gender	<i>n</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>p</i>
Female	45	3.04	.539	2.050*	.042
Male	170	2.87	.463		

Note. Scale: 1.00 to 1.49 = Strongly Disagree, 1.50 to 2.49 = Disagree, 2.50 to 3.49 = Agree, 3.50 to 4.00 = Strongly Agree.

* denotes that p is statistically significant at $< .05$

Teaching Experience

A one –way analysis of variance (ANOVA) was used to compare participants’ perceptions of proposed solutions to increase diversity inclusion in Texas secondary agricultural education programs by teaching experience. As seen in Table 39, no statistically significant difference existed in mean scores among participants, $F(5, 208) = 1.077, p < .05$. A negligible effect size existed ($r = .03$).

Table 39
ANOVA Table of Overall Solutions Scores by Teaching Experience

	<i>n</i>	<i>M</i>	<i>SD</i>	<i>F</i>	<i>p</i>
Years of Teaching					
<5	48	3.00	.456	1.077	.374
5-10	52	2.89	.461		
11-15	32	2.91	.448		
16-20	24	2.77	.585		
21-25	27	2.98	.491		
>25	31	2.82	.498		

Note. Scale: 1.00 to 1.49 = Strongly Disagree, 1.50 to 2.49 = Disagree, 2.50 to 3.49 = Agree, 3.50 to 4.00 = Strongly Agree.

Preservice Diversity/Multicultural Training

The t-test procedure was used to determine if differences existed in participants’ perceptions of proposed solutions to increase diversity inclusion in Texas secondary agricultural education programs based on preservice diversity/multicultural training received. Results indicate that a statistically significant difference ($t(212) = .471, p < .05$) did not exist between mean scores of participants who received preservice diversity/multicultural training and those that did not (See Table 40). A negligible effect size ($r = < .01$) existed.

Table 40
Comparison of Solutions Scale by Preservice Diversity/Multicultural Training Received

Preservice Diversity/Multicultural Training	<i>n</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>p</i>
Yes	68	2.88	.413	.471	.638
No	146	2.92	.516		

Note. Scale: 1.00 to 1.49 = Strongly Disagree, 1.50 to 2.49 = Disagree, 2.50 to 3.49 = Agree, 3.50 to 4.00 = Strongly Agree.

Inservice Diversity/Multicultural Training

The t-test procedure was used to determine if differences existed in participants' perceptions of proposed solutions to increase diversity inclusion in Texas secondary agricultural education programs based on inservice diversity/multicultural training received. Results indicate that a statistically significant difference ($t(212) = .408, p < .05$) did not exist between mean scores of participants who received inservice diversity/multicultural training and those that did not (See Table 41). A negligible effect size ($r = < .01$) existed.

Table 41
Comparison of Solutions Scale by Inservice Diversity/Multicultural Training Received

Inservice Diversity/Multicultural Training	<i>n</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>p</i>
Yes	100	2.90	.530	.408	.684
No	114	2.92	.430		

Note. Scale: 1.00 to 1.49 = Strongly Disagree, 1.50 to 2.49 = Disagree, 2.50 to 3.49 = Agree, 3.50 to 4.00 = Strongly Agree.

Race/Ethnicity

The t-test procedure was used to determine if difference existed in the perceptions of participants' perceptions of proposed solutions to increase diversity inclusion in Texas secondary agricultural education programs based on race/ethnicity.

For this analysis, participants who identified their race/ethnicity as Asian American, Black/African-American, Hispanic/Latino American, or Native American were coded as “yes”; participants who identified their race/ethnicity as White was coded as “no.” Results indicate that a statistically significant difference ($t(208) = 3.739, p < .01$) existed between mean scores of teachers of color ($M = 3.28, SD = .563$) and White/European American teachers ($M = 2.87, SD = .460$) on the proposed solutions to increase diversity inclusion in Texas secondary agricultural education programs. (See Table 42). A negligible effect size ($r = .06$) existed.

Table 42
Comparison of Solutions Scale by Teacher of Color Status

Teacher of Color	<i>n</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>p</i>
Yes	20	3.28	.563	3.739**	.001
No	190	2.87	.460		

Note. Scale: 1.00 to 1.49 = Strongly Disagree, 1.50 to 2.49 = Disagree, 2.50 to 3.49 = Agree, 3.50 to 4.00 = Strongly Agree.

** denotes that *p* is statistically significant at $< .01$

School Setting

A one –way analysis of variance (ANOVA) was used to compare participants’ perceptions of proposed solutions to increase diversity inclusion in Texas secondary agricultural education programs by school setting. By observing Table 43, the researcher was able to conclude that a statistically significant difference existed in mean scores among participants, $F(2, 211) = .045, p < .05$. A negligible effect size existed ($r = .03$). A Tukey’s post-hoc analysis revealed a statistically significant difference between the urban and rural school settings in regards to mean scores of the *Barriers* scale.

Table 43
ANOVA Table of Overall Solutions Scores by School Setting

	<i>n</i>	<i>M</i>	<i>SD</i>	<i>F</i>	<i>p</i>
School setting					
Rural	135	2.84	.417	3.147*	0.45
Suburban	47	3.02	.550		
Urban	32	2.98	.571		

Note. Scale: 1.00 to 1.49 = Strongly Disagree, 1.50 to 2.49 = Disagree, 2.50 to 3.49 = Agree, 3.50 to 4.00 = Strongly Agree.

* denotes that *p* is statistically significant at <.05

Because of statistically significant ($p < .05$) differences found between the personal variables, the null hypothesis is rejected and the researcher concluded that a statistically significant difference exists in Texas secondary agricultural education teachers' perceptions of proposed solutions to increase diversity inclusion in secondary agricultural education programs.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Purpose and Objectives of Study

The purpose of this study was to explore and analyze the attitudes of Texas secondary agricultural education teachers toward diversity inclusion in Texas secondary agricultural education programs. A secondary purpose was to explore relationships between selected variables including gender, age, ethnicity, teaching experience, area of agricultural science teaching experience, and diversity/multicultural experience. Additionally, the following objectives were identified to accomplish the purpose of this study:

1. To identify personal characteristics of the selected Texas secondary agricultural science teachers;
2. To describe Texas secondary agricultural education teachers' perceptions of the benefits of diversity inclusion in Texas secondary agricultural education programs;
3. To describe Texas secondary agricultural education teachers' perceptions of the barriers of diversity inclusion in Texas secondary agricultural education programs;
4. To determine Texas secondary agricultural education teachers' perceptions of proposed solutions to increase diversity inclusion in Texas secondary agricultural education programs; and

5. To determine if relationships exist between and among selected personal variables, benefits of diversity inclusion, barriers to diversity inclusion, and solutions to increase diversity inclusion.

Hypotheses

The following null and alternative hypotheses were developed to guide this study.

Null Hypotheses

- Ho₁: No difference exists in Texas secondary agricultural education teachers' perceptions of the benefits of diversity inclusion in the presence of teaching area, age, gender, teaching experience, preservice diversity/multicultural training, inservice diversity/multicultural training, ethnicity, or school setting.
- Ho₂: No difference exists in Texas secondary agricultural education teachers' perceptions of the barriers of diversity inclusion in the presence of teaching area, age, gender, teaching experience, preservice diversity/multicultural training, inservice diversity/multicultural training, ethnicity, or school setting.
- Ho₃: No difference exists in Texas secondary agricultural education teachers' perceptions of proposed solutions to increase diversity inclusion in the presence of teaching area, age, gender, teaching experience, preservice diversity/multicultural training, inservice diversity/multicultural training, ethnicity, or school setting.

Alternative Hypotheses

- Ha₁: A difference will exist in Texas secondary agricultural education teachers' perceptions of the benefits of diversity inclusion in the presence of teaching area, age, gender, teaching experience, preservice diversity/multicultural training, inservice diversity/multicultural training, ethnicity, or school setting.
- Ha₂: A difference will exist in Texas secondary agricultural education teachers' perceptions of the barriers of diversity inclusion in the presence of teaching area, age, gender, teaching experience, preservice diversity/multicultural training, inservice diversity/multicultural training, ethnicity, or school setting.
- Ha₃: A difference will exist in Texas secondary agricultural education teachers' perceptions of proposed solutions to increase diversity inclusion in the presence of teaching area, age, gender, teaching experience, preservice diversity/multicultural training, inservice diversity/multicultural training, ethnicity, or school setting.

On June 30, 2008, a pre-notice/introductory letter was mailed to 320 agricultural education teachers. The letter informed the teachers that they would receive an e-mail in about one week with instructions on how to complete the questionnaire. At the time of the first e-mail, 31 e-mail addresses were invalid. The researcher searched district websites and contacted school personnel to obtain valid e-mail address. Once corrected, the e-mail was re-sent and deemed valid. On Monday, July 7, 2008, the first notification e-mail was sent to 320 agricultural education teachers.

On July 10, 2008, a second reminder was sent via e-mail to the sample population. The letter thanked those participants who had completed the study and also encouraged those who had not yet participated to complete the questionnaire. Because of the increased speed of web-based research, the time between the pre-notice letter and the initial questionnaire was reduced to days rather than weeks (Schaefer & Dillman, 1998; Frazee, Hardin, Brashears, Haygood & Smith, 2003). However, for the remainder of the data collection phase, reminder e-mails were sent out each Monday until the study was concluded on August 21, 2008.

The target population consisted of all Texas secondary agricultural education teachers as listed by the Texas Education Agency during the 2006-2007 school year (1,732). Because of the unavailability of personal information from the Texas Education Association, access to all 1,732 agricultural education teachers listed by Texas Education Association was not accessible. The accessible population of the study consisted of all Texas secondary agricultural education teachers that had email addresses listed on JudgingCard.com website. At the time of selection, there were 1,500 Texas agricultural education teachers listed. Therefore those teachers who had e-mail addresses listed on JudgingCard.com were used because this was the most reflective representation of Texas agricultural education teachers available. To ensure that all 1,500 teachers listed on the website were agricultural science teachers in Texas, cross referencing was used with the Vocational Agriculture Teachers Association of Texas (VATAT) membership roster to ensure validity. Of the 1,500 members who were listed as Texas agricultural science teachers on the JudgingCard.com website, all were members of VATAT during the

2007-2008 membership year. The sample size was determined using a sampling formula from Bartlett, Kotrlik and Higgins (2001). This formula was used because it allowed the researcher to attain a practical sample size based upon a set alpha level *a priori* (.05), a set margin of error (5%) and a set estimate of standard of deviation (1.17). For research purposes, the researcher decided that all 10 administrative areas, as defined by the Texas FFA Association, would be proportionally represented in the study. From each administrative area, 32 teachers were selected randomly among each Area ($n = 320$).

Data were analyzed using SPSS® for Windows™ statistical package. An alpha level of $p < .05$ was set *a priori* to determine statistical significance for all analyses. Analysis of Variance (ANOVA) was used to compare various subjects (independent variables) on scaled variables (dependent variables). If ANOVA was statistically significant, Tukey's post-hoc means test was used to determine which of the group means were different from others. Coolidge (2006) states Tukey's post-hoc test is "a popular multiple comparison test, considered neither too liberal nor or too conservative, that maintains the Type I error rate regardless of the number of means to be compared" (p.269). To assess the magnitude of statistical differences, effect sizes were calculated, interpreted, and reported (Cohen, 1988). Interpretations for effect size are listed (See Table 1). Interpretations for ANOVA were based on Cohen's Conversion also.

The first objective was to identify personal characteristics of the selected Texas secondary agricultural science teachers. Descriptive statistics (frequencies and percentages by levels of response) were used for reporting the demographic and personal characteristics of respondents.

The second objective was to describe Texas secondary agricultural education teachers' perceptions of the benefits of diversity inclusion in Texas secondary agricultural education programs. To satisfy this objective, overall sample frequencies, counts, and percentages were generated first, and then the data were split according to selected groupings by the researcher. Mean scores, and standard deviations were used to quantify statements based upon participant's perceptions towards the benefits of diversity inclusion.

The third objective was to describe Texas secondary agricultural education teachers' perceptions of the barriers of diversity inclusion in Texas secondary agricultural education programs. To satisfy this objective, overall sample frequencies, counts, and percentages were generated first, and then the data were split according to selected groupings by the researcher. Mean scores, and standard deviations were used to quantify statements based upon participant's perceived barriers towards diversity inclusion in secondary agricultural education programs.

The fourth objective was to determine Texas secondary agricultural education teachers' perceptions of proposed solutions to increase diversity inclusion in Texas secondary agricultural education programs. To satisfy this objective, overall sample frequencies, counts, and percentages were generated first, and then the data were split according to selected groupings by the researcher. Mean scores, and standard deviations were used to quantify statements based upon participant's perceptions of proposed solutions to increase diversity inclusion in Texas secondary agricultural education programs.

The fifth objective was to determine if relationships existed among agricultural education teachers' selected demographic and personal characteristics, their perceptions of benefits toward diversity inclusion, perceived barriers towards diversity inclusion, and proposed solutions to increase diversity inclusion in secondary agricultural education programs. Correlation statistics were used to determine the relationships between selected variables as described by objective five. Pearson's Product-Moment coefficient of correlation was used to determine the degree of relationships between the variables. Davis (1971) presented a guide (See Table 2) of coefficient values and the magnitude of relationships.

Summary of Findings

Objective One

Objective one was to identify personal characteristics of the selected Texas secondary agricultural science teachers. The findings were as follows:

1. The majority of the participants were from teaching areas V (12.5%), VI (11.6%), VII (11.6%), and VIII (11.6%). Every teaching area except area I (40%) had over a 50% response rate.

2. The sample consisted of 53 participants (25.4%) 30 years old or younger; 30 (14.4%) were between the ages of 30 and 34; 27 (12.9%) were between 35 and 39 years of age; 27 (12.9%) were between 40 and 44 years of age; 52 (24.9%) were between 45 and 54 years of age; and 20 (9.6%) were more than 54 years old.

3. There were 170 males and 45 females in the sample. This percentage was a very similar representation of the gender makeup that was reported by the Texas Education Association.

4. Participants in the sample identified their years of teaching in one of six categories. The distribution was 22.3% had less than five years teaching experience, 24.2% had between 5 and 10 years of teaching experience, 14.9% had between 11 and 15 years of teaching experience, 11.2% had between 16 and 20 years of teaching experience, 12.6% had between 21 and 25 years of teaching experience, and 14.9% had more than 25 years of teaching experience.

5. A majority of the sample (68.4%) indicated that they had not received any diversity/multicultural training during their undergraduate career.

6. A majority of the sample (53.5%) indicated that they had not received any diversity/multicultural training outside of a college/university requirement.

7. The sample had an ethnic distribution of 90.5% White/European American, 6.2% Hispanic/Latino American, 1.9% Native American, 0.9% African American, and 0.5% Asian American.

8. Teachers in the sample identified their school setting in one of three categories. The distribution was 62.8% in a rural setting, 22.3% in a suburban setting, and 14.9% in an urban setting.

Objective Two

Objective two was to describe Texas secondary agricultural education teachers' perceptions of the benefits of diversity inclusion in Texas secondary agricultural

education programs. Participants in the study responded to 12 items regarding their perceived benefits of diversity inclusion in secondary agricultural education programs.

The findings for each statement are as follows:

1. Approximately 97% of participants agreed or strongly agreed with the statement: “There are benefits for the inclusion of students of color in agricultural education programs.”

2. Approximately 96% of participants agreed or strongly agreed with the statement: “There are benefits for the inclusion of students with disabilities in agricultural education programs.”

3. About 96% of participants agreed or strongly agreed with the statement: “Providing students of color with leadership development opportunities will have a positive impact on agricultural education programs.”

4. Ninety-three percent of participants agreed or strongly agreed with the statement: “Diversity inclusion in my agricultural education program can have a positive impact on other programs across the state.”

5. Ninety-five percent of participants agreed or strongly agreed with the statement: “Providing students with disabilities with leadership development opportunities will have a positive impact on agricultural education programs.”

6. Approximately 97% of participants agreed or strongly agreed with the statement: “Providing students of color with career success opportunities will have a positive impact on agricultural education programs.”

7. About 96% of participants agreed or strongly agreed with the statement: “Providing students with disabilities with career success opportunities will have a positive impact on agricultural education programs.”

8. Approximately 97% of participants agreed or strongly agreed with the statement: “The inclusion of diverse populations in agricultural education is a benefit for the entire school community.”

9. About 96% of participants agreed or strongly agreed with the statement: “Diversity inclusion can improve social relationships between White students and students of color in agricultural education.”

10. About 96% of participants agreed or strongly agreed with the statement: “Diversity inclusion can improve social relationships between students with and without disabilities in agricultural education.”

11. Approximately 92% of participants agreed or strongly agreed with the statement: “I believe diversity inclusion helps students of color improve academically.”

12. Ninety-two percent of participants agreed or strongly agreed with the statement: “I believe diversity inclusion helps students with disabilities improve academically.”

Objective Three

Objective three was to describe Texas secondary agricultural education teachers' perceptions of the barriers of diversity inclusion in Texas secondary agricultural education programs, as measured by the *Barriers* scale. Participants in the study responded to 12 items regarding their perceptions on the perceived barriers to diversity

inclusion in secondary agricultural education programs. The findings for each statement are as follows:

1. Approximately 74% of participants agreed or strongly agreed with the statement: “A lack of role models hinders the participation of students of color in agricultural education.”

2. About 62% of participants agreed or strongly agreed with the statement: “A lack of role models hinders the participation of students with disabilities in agricultural education.”

3. Approximately 64% of participants agreed or strongly agreed with the statement: “Negative stereotypes are a primary reason why students of color do not enroll in agricultural classes.”

4. Only 41% of participants agreed or strongly agreed with the statement: “Negative stereotypes are a primary reason why students with disabilities do not enroll in agricultural classes.”

5. Approximately 72% of participants agreed or strongly agreed with the statement: “The perception of agriculture itself influences the participation of students of color in agricultural education.”

6. About 59% of participants agreed or strongly agreed with the statement: “The perception of agriculture itself influences the participation of students with disabilities in agricultural education.”

7. Approximately 75% of participants agreed or strongly agreed with the statement: “Acceptance by peers is a barrier to diversity inclusion by students of color in agricultural education.”

8. Only 47% of participants agreed or strongly agreed with the statement: “Improper classroom modifications are a barrier to diversity inclusion for students with disabilities in agricultural education.”

9. About 81% of participants agreed or strongly agreed with the statement: “The lack of information about agricultural education has an impact on students of color perceptions of agricultural education.”

10. Approximately 79% of participants agreed or strongly agreed with the statement: “The student demographics of my agricultural program reflect the demographics of my school.”

11. About 68% of participants agreed or strongly agreed with the statement: “The student demographics of my FFA organization reflect the demographics of my school.”

12. Ninety-one percent of participants agreed or strongly agreed with the statement: “Parental attitudes about agricultural education play an important role in students of color decisions to enroll in agricultural education.”

Objective Four

Objective four was to determine Texas secondary agricultural education teachers' perceptions of proposed solutions to increase diversity inclusion in secondary agricultural education programs as measured by the *Solutions* scale. Participants in the study responded to 12 items regarding their perceptions on possible strategies or

solutions that would promote diversity inclusion in secondary agricultural education programs. The findings for each statement are as follows:

1. Approximately 94% of participants agreed or strongly agreed with the statement: “For all students to achieve in school, educators, parents, and policymakers must develop strategies to address the different learning styles of all students.”

2. About 59% of participants agreed or strongly agreed with the statement: “Secondary agricultural education teachers need training in multicultural education.”

3. About 73% of participants agreed or strongly agreed with the statement: “Multicultural education is a strategy that can be utilized to promote an attitudinal change toward diversity inclusion in secondary agricultural education.”

4. Sixty-one percent of participants agreed or strongly agreed with the statement: “It is important for colleges and universities to incorporate more multicultural education classes in their preservice teacher preparation curriculums.”

5. Approximately 77% of participants agreed or strongly agreed with the statement: “Multicultural education can be used to increase the awareness of students with disabilities in relation to diversity.”

6. Approximately 81% of participants agreed or strongly agreed with the statement: “Multicultural education can be used to increase the awareness of students of color in relation to diversity.”

7. About 85% of participants agreed or strongly agreed with the statement: “Teaching materials should reflect a diverse society in agricultural education.”

8. About 88% of participants agreed or strongly agreed with the statement: “Agricultural education teachers should become familiar with the students of color represented in their classrooms in order to promote an atmosphere of acceptance and cooperation.”

9. About 65% of participants agreed or strongly agreed with the statement: “A state-wide support network for agricultural educators would enhance diversity inclusion in agricultural education.”

10. Approximately 83% of participants agreed or strongly agreed with the statement: “Mentoring is a strategy that could be utilized to increase diversity inclusion in secondary agricultural education.”

11. Approximately 81% of participants agreed or strongly agreed with the statement: “An increase in recruitment efforts by agricultural educators would enhance diversity inclusion in agricultural education.”

12. About 86% of participants agreed or strongly agreed with the statement: “Agricultural educators should encourage and strive to increase students of color membership in FFA.”

Objective Five

The fifth objective was to determine if relationships existed among agricultural education teachers’ selected personal characteristics with the three scales of the questionnaire. Correlations were examined in order to see if any significant relationships were found among the eight personal variables collectively. Pearson’s Product-Moment

coefficient of correlation was used to determine the degree of relationships between the variables. The findings were as follows:

1. The *Benefits* scale had no statistically significant, low to negligible relationships to any of the eight personal variables. Therefore, no personal variables were found to be related to participants means score on the *Benefits* scale.

2. There was a statistically significant and low relationship found between the personal variable race/ethnicity and the *Barriers* scale ($r = .20, p < .01$). No statistically significant, low to negligible relationships were found between the remaining seven variables.

3. Statistically significant and low relationships were found between the variables of gender ($r = .14, p < .05$), race/ethnicity ($r = .26, p < .01$), and school setting ($r = .14, p < .05$) on the *Solutions* scale. No statistically significant, negligible relationships were found between the remaining four variables.

4. A statistically significant relationship existed between the personal variables of age and gender ($r = .33, p < .01$); age and years teaching ($r = .84, p < .01$); age and preservice diversity/multicultural training ($r = .16, p < .05$); gender and years of teaching ($r = .29, p < .05$), gender and school setting ($r = .19, p < .01$), years teaching and preservice diversity/multicultural training ($r = .22, p < .05$), and inservice diversity/multicultural training and school setting ($r = .14, p < .05$).

Null Hypothesis One

The null hypothesis stated no difference exists in Texas secondary agricultural education teachers' perceptions of the benefits of diversity inclusion in the presence of

teaching area, age, gender, teaching experience, preservice diversity/multicultural training, inservice diversity/multicultural training, ethnicity, or school setting. This hypothesis was tested using a combination of independent samples t-test and the ANOVA procedure. Personal variables were the independent variables of the study and the dependent variable was participants' mean scores on the Benefits scale. The findings were as follows:

1. A statistically significant difference exists in mean scores among teaching areas of the state and means scores on the *Benefits* scale, $F(9, 206) = 2.31, p < .05$. A large effect size was found ($r = .92$). A Tukey's post-hoc analysis showed that area VII teachers ($M = 3.53, SD = .421$) had statistically significant higher mean *Benefits* scores than did area IX teachers ($M = 3.04, SD = .637$). No other statistically significant differences existed among other areas.

2. A statistically significant difference did not exist among the age groups and mean scores on the *Benefits* scale $F(5, 203) = .825, p < .05$. A negligible effect size ($r = .02$) did exist.

3. A statistically significant difference did not exist by gender and mean scores on the *Benefits* scale, $t(213) = 1.14, p < .05$. A negligible effect size ($r = < .01$) did exist.

4. A statistically significant difference did not exist by teaching experience and mean scores on the *Benefits* scale, $F(5, 209) = .525, p < .05$. A negligible effect size did exist ($r = .01$).

5. A statistically significant difference did not exist between mean scores of participants who received preservice diversity/multicultural training and those that did

not on the *Benefits* scale ($t(213) = .726, p < .05$). A negligible effect size ($r = < .01$) did exist.

6. A statistically significant difference did not exist difference between mean scores of participants who received inservice diversity/multicultural training and those that did not on the *Benefits* scale ($t(213) = 1.99, p < .05$). A negligible effect size ($r = < .01$) did exist.

7. A statistically significant difference did not exist between mean scores of teachers of color and White/European American teachers on the *Benefits* scale ($t(209) = 1.76, p < .05$). A negligible effect size ($r = .02$) did exist.

8. A statistically significant difference did not exist by school setting and mean scores on the *Benefits* scale, $F(2, 212) = 1.257, p < .05$. A negligible effect size did exist ($r = .01$).

Because of statistically significant ($p < .05$) differences existing between the personal variables and the *Benefits* scale, the null hypothesis is rejected and can be concluded that a difference does exist in Texas secondary agricultural education teachers' perceptions of the benefits of diversity inclusion.

Null Hypothesis Two

The null hypothesis stated no difference exists in Texas secondary agricultural education teachers' perceptions of the barriers to diversity inclusion in the presence of teaching area, age, gender, teaching experience, preservice diversity/multicultural training, inservice diversity/multicultural training, ethnicity, or school setting. This hypothesis was tested using a combination of independent samples t-test and the

ANOVA procedure. Personal variables were the independent variables of the study and the dependent variable was participants' mean scores on the *Barriers* scale. The findings were as follows:

1. A statistically significant difference did not exist in mean scores among teaching areas of the state and means scores on the *Barriers* scale $F(9, 206) = .856, p < .05$. A negligible effect size did exist ($r = .04$).

2. A statistically significant difference did not exist among the age groups and mean scores on the *Barriers* scale $F(5, 203) = 1.148, p < .05$. A negligible effect size ($r = .03$) did exist.

3. A statistically significant difference did not exist by gender and mean scores on the *Barriers* scale, $t(213) = .703, p < .05$. A negligible effect size ($r = < .01$) did exist.

4. A statistically significant difference did not exist by teaching experience and mean scores on the *Barriers* scale, $F(5, 209) = .590, p < .05$. A negligible effect size did exist ($r = .01$).

5. A statistically significant difference did not exist between mean scores of participants who received preservice diversity/multicultural training and those that did not on the *Barriers* scale, $t(213) = 1.086, p < .05$. A negligible effect size ($r = < .01$) did exist.

6. A statistically significant difference did not exist between mean scores of participants who received inservice diversity/multicultural training and those that did not on the *Barriers* scale, $t(213) = .519, p < .05$. A negligible effect size ($r = < .01$) did exist.

7. A statistically significant difference did exist between mean scores of teachers of color ($M = 3.07$, $SD = .528$) and White/European American teachers ($M = 2.81$, $SD = .350$) on the *Barriers* scale. A negligible effect size ($r = .04$) did exist.

8. A statistically significant difference did not exist by school setting and mean scores on the *Barriers* scale, $F(2, 212) = .042$, $p < .05$. A negligible effect size did exist ($r = < .01$).

Because of significant ($p < .05$) differences found between the personal variables and the *Barriers* scale, the null hypothesis is rejected and can be concluded that a difference does exist in Texas secondary agricultural education teachers' perceptions of the barriers to diversity inclusion in Texas secondary agricultural education programs.

Null Hypothesis Three

The null hypothesis stated no difference exists in Texas secondary agricultural education teachers' perceptions of proposed solutions to increase diversity inclusion in the presence of teaching area, age, gender, teaching experience, preservice diversity/multicultural training, inservice diversity/multicultural training, ethnicity, or school setting. This hypothesis was tested using a combination of independent samples t-test and the ANOVA procedure. Personal variables were the independent variables of the study and the dependent variable was participants' mean scores on the *Solutions* scale.

The findings were as follows:

1. A statistically significant difference did not exist in mean scores among teaching areas of the state and mean scores on the *Solutions* scale, $F(9, 205) = .786$, $p < .05$. A negligible effect size did exist ($r = .03$).

2. A statistically significant difference did not exist among the age groups and mean scores on the *Solutions* scale, $F(5, 202) = .900, p < .05$. A negligible effect size ($r = .02$) did exist.

3. A statistically significant difference did exist by gender and mean scores on the *Solutions* scale, $t(213) = 2.050, p < .05$. Females had a composite mean score of 3.04 ($SD = .539$) while males had a composite mean score 2.87 ($SD = .463$). A negligible effect size ($r = .02$) did exist.

4. A statistically significant difference did not exist by teaching experience and mean scores on the *Solutions* scale, $F(5, 208) = 1.077, p < .05$. A negligible effect size did exist ($r = .03$).

5. A statistically significant difference did not exist between mean scores of participants who received preservice diversity/multicultural training and those that did not on the *Solutions* scale, $t(212) = .471, p < .05$. A negligible effect size ($r = < .01$) did exist.

6. A statistically significant difference did not exist between mean scores of participants who received inservice diversity/multicultural training and those that did not on the *Solutions* scale, $t(212) = .408, p < .05$. A negligible effect size ($r = < .01$) did exist.

7. A statistically significant difference did exist between mean scores of teachers of color ($M = 3.28, SD = .563$) and White/European American teachers ($M = 2.87, SD = .460$) on the *Solutions* scale, $t(208) = 3.739, p < .01$. A negligible effect size ($r = .06$) did exist.

8. A statistically significant difference did exist by school setting and mean scores on the *Solutions* scale, $F(2, 211) = .045, p < .05$. A Tukey's post-hoc analysis revealed that there was a significant difference between participants who taught in urban school settings ($M = 2.98, SD = .571$) and those who taught in rural school settings ($M = 2.84, SD = .417$). A negligible effect size did exist ($r = .03$).

Because of significant ($p < .05$) differences found between the personal variables, the null hypothesis is rejected and can be concluded that a difference does exist in Texas secondary agricultural education teachers' perceptions of proposed solutions to increase diversity inclusion in secondary agricultural education programs.

Conclusions

The conclusions of this study are based on the findings from data collected and analyzed in this research. Some conclusions are followed by findings from other research that this study supports or refutes.

Objective One

1. Overall, participants from the 10 teaching areas had a high rate of response using an Internet based survey method. This finding adds credence to the study conducted by Ladner, Wingenbach, and Raven (2002) that concluded that web-based survey instruments provide valid and reliable means on collecting data.

2. Generally, participants represented a diverse age range of Texas agricultural education teachers. There were a large percentage of participants that were under the age of 40 (53%).

3. The gender representation of participants reflected a similar representation of gender as reported by the Texas Education Association.

4. Most agricultural education teachers had less than 15 years of teaching experience (61%). This number compared with the age representation of participants may suggest that many agricultural education teachers in Texas are in their early to mid years of their careers.

5. The majority (68.4%) of agricultural education teachers were more than likely not to have received diversity/multicultural training during their undergraduate careers.

6. The majority (53.5%) of agricultural education teachers were more than likely not to have received diversity/multicultural training outside of a college or university requirement. The decreased percentage between inservice and preservice diversity/multicultural training could indicate that schools are making conscious efforts to provide diversity/multicultural education to agricultural education teachers.

7. The race/ethnicity composition of the sample was proportional to that of Texas public schools. Agricultural education teachers of color in Texas represent only 0.8% of the total population.

8. The majority (62.8%) of agricultural education teachers taught in a rural school setting. Many secondary agricultural education programs in Texas are located in rural school districts within the state.

Objective Two

1. Overall, the mean and standard deviation for the *Benefits* scale were $M = 3.45$, $SD = .596$. Texas agricultural education teachers tended to agree with the statements

regarding the benefits of diversity inclusion in agricultural education programs. This finding concludes that Texas agricultural education teachers do see the benefits of diversity inclusion in secondary agricultural education programs. Because the scale addressed both students of color and students with disabilities, findings of this study support previous studies that found that general education teachers can have positive benefits of both students of color and students with disabilities (Finnegan, 2004; Smith, 2007; Wood, 2007).

2. Texas agricultural education teachers agreed with the statement: “There are benefits for the inclusion of students of color in agricultural education programs.” This finding concludes that participants believed that the agricultural education program is a good choice for students of color. Although this finding is of good meaning, an underrepresentation of students of color in agricultural education still exists.

3. Texas agricultural education teachers agreed that secondary agricultural education programs can provide numerous benefits for students with disabilities. This finding supports the findings by Van Reusen et. al (2000) that indicated teachers who taught elective courses have similar attitudes toward inclusion as did those teachers who taught basic or required courses.

4. Texas agricultural education teachers agreed that diversity inclusion in agricultural education could have a positive impact on the entire school community and provide a positive impact on programs across the state. This finding concludes that Texas agricultural education programs could have a greater impact on diversity inclusion than any other school program. Because of the uniqueness of the profession, many

agricultural education teachers model their program's success upon the positive attributes of others. If more agricultural education teachers incorporate diversity initiatives, it's a possibility that other agricultural education teachers will mimic their efforts.

Objective Three

1. Overall, the mean and standard deviation for the *Barriers* scale were $M = 2.82$, $SD = .378$. Texas agricultural education teachers tended to agree with the perceptions of the perceived barriers of diversity inclusion in Texas secondary agricultural education programs.

2. Overall, Texas agricultural education teachers agree that a lack of role models hindered the participation of students of color and students with disabilities in agricultural education. Given this information, efforts to recruit role models that would change the perceptions of these students about agricultural education potentially would be of benefit to the profession. However, Scott and Lavergne (2004) discovered that individual influences did not play a role in students' perceptions of enrolling in an agricultural education course.

3. Texas agricultural education teachers believed that the lack of information about agricultural education has an impact on students' of color perceptions of agricultural education. Considering this finding, agricultural educators should revisit their recruitment efforts and, in turn, develop strategies that would foster a greater opportunity for students of color to create a positive perception of agricultural education. This finding adds relevance to studies such as Warren and Alston (2007) and Roberts,

Hall, Briers, Gill, Shinn, Larke, and Jaure (2008) which examine the link between teachers and students in relation to the recruitment of diverse populations in agricultural education.

4. Respondents did not agree that negative stereotypes or improper classroom modifications were barriers for students with disabilities to enroll in agricultural education classes. This finding supports the conclusion that agricultural education has been receptive to students with disabilities in agricultural education programs. This finding also is important given the fact that high numbers of students with disabilities are enrolled in agricultural education programs in Texas (TEA, 2008b).

5. Respondents reported that the student demographics of their FFA program reflected the student demographics of their school. This finding was unexpected given the fact that students of color and students with disabilities still are underrepresented in FFA (National FFA Organization, 2007).

Objective Four

1. Overall, the mean and standard deviation for the *Solutions* scale were $M = 2.90$, $SD = .485$. Texas agricultural education teachers tended to agree with the proposed solutions to increase diversity inclusion in Texas secondary agricultural education programs.

2. Respondents tended to agree with the statement: "For all students to achieve in school, educators, parents, and policymakers must develop strategies to address the different learning styles of all students. Additionally, respondents agreed that, "A state-wide support network for agricultural educators would enhance diversity inclusion in

agricultural education.” By addressing the needs of the students, a more inclusive and caring learning environment could be promoted to create a classroom, program, and FFA chapter that are equitable to all students.

3. Multicultural education was viewed as a tool to increase the awareness of students of color and students with disabilities in relation to diversity inclusion in secondary agricultural education programs. The finding affirms the critical need of developing culturally responsive teachers. Culturally responsive teaching is important for the success of students of color and students with disabilities in agricultural education. Gay (2000) emphasized that a continuation of ignorance about equitable pedagogy and cultural difference would be harmful to diverse students.

4. Texas agricultural education teachers believed that teaching materials should reflect a diverse society in agricultural education. Although this finding indicates respondents’ requests to have teaching material that reflect a diverse society, Banks (2008) cautioned educators to not to stop there:

In many school districts as well as in popular writings, multicultural education is viewed only (or primarily) as content integration. This narrow conception of multicultural education is a major reason that many teachers in subjects such as biology, physics, and mathematics believe that multicultural education is irrelevant to them and their student (p.31).

Agricultural education teachers need to understand that pictures and books about underrepresented groups in agricultural education will not be the end-all solution to recruiting these students into their programs. Teachers must make genuine efforts to

promote a total multicultural inclusive classroom that will foster acceptance and embrace the differences in students.

5. Mentoring was seen as a strategy to increase diversity inclusion in secondary agricultural education programs. This finding supports what Banks (2008) called an empowering school climate and culture. Teachers, administrators, and parents must work collectively to make sure schools create an atmosphere that promotes diversity and inclusiveness. Agricultural education teachers must understand that their goal to promote diversity inclusion is not an isolated mission but rather a school-wide effort.

Objective Five

1. Personal variables showed no relationship to agricultural education teachers' score on the *Benefits* scale.

2. The race/ethnicity of the teacher and the *Barriers* scale are related. No other personal variable was related.

3. The race/ethnicity of the teacher, gender, and school setting are related to the *Solutions* scale. No other personal variables were related.

4. The personal variables of age and gender; age and years teaching; age and preservice diversity/multicultural training; gender and years teaching; gender and school setting; years teaching and preservice diversity/multicultural training; and inservice diversity/multicultural training and school setting are related.

Null Hypothesis One

1. The teaching area chosen by respondents did have a statistically significant difference on their score on the *Benefits* scale. Area VII agreed more with the

perceptions of the benefits of diversity inclusion than did Area IX teachers. This finding indicates that area VII teachers had statistically significant higher mean scores regarding the statements about the benefits of diversity inclusion than Area IX teachers.

2. The age of respondents had no statistically significant difference on the *Benefits* scale. Nevertheless, descriptive analysis showed that teachers in the age range of 40 to 44 had higher overall mean scores than did the other age groups.

3. Gender was not found to have a statistically significant difference in mean score on the *Benefits* scale. However, through descriptive analysis, the study found that males had higher mean averages than females on the scale.

4. Years of teaching had no overall significant difference on the *Benefits* scale. However, through descriptive analysis, the study found that teachers who taught between six to ten years of service had higher overall mean scores than did the other groups.

5. A statistically significant difference did not exist between those teachers who received preservice diversity/multicultural training and those teachers that did not. However, through descriptive analysis, the study found that those teachers that did not receive preservice training had higher mean score than those that did.

6. A statistically significant difference did not exist between those teachers who received inservice diversity/multicultural training and those teachers that did not. Conversely, descriptive analysis reveals those teachers that did not receive inservice training had higher mean score than those that did.

7. A statistically significant difference did not exist between teachers of color and White/European American teachers on the *Benefits* scale. However, through descriptive

analysis, the study found that teachers of color had higher mean scores than did their counterparts.

8. A statistically significant difference did not exist between respondents' school setting and mean scores on the *Benefits* scale. However, descriptive analysis reveals those teachers who taught in urban school settings had higher mean scores than teachers who taught in rural and suburban school settings.

Null Hypothesis Two

1. A statistically significant difference did not exist between respondents' selected teaching area and the *Barriers* scale. Nevertheless, descriptive analysis reveals that Area I teachers had the highest mean score average among the groups.

2. The age of respondents had no statistically significant difference on the *Barriers* scale. Nevertheless, descriptive analysis shows that teachers in the age range of > 54 years old had higher overall mean scores than did the other age groups.

3. Gender was not found to show a statistically significant difference in mean score on the *Barriers* scale. However, descriptive analysis revealed that females had higher mean averages.

4. Years of teaching had no overall statistically significant difference on the *Barriers* scale. However, descriptive analysis showed that teachers in who taught between 21 to 25 years of service had higher mean scores than did the other groups.

5. A statistically significant difference did not exist between those teachers who received preservice diversity/multicultural training and those teachers that did not on the

Barriers scale. However, descriptive analysis reveals those teachers that did not receive preservice training had higher mean scores.

6. A statistically significant difference did not exist in *Barriers* scores found between those teachers who received inservice diversity/multicultural training and those teachers that did not. Conversely, descriptive analysis reveals those teachers that did receive inservice training had higher mean scores.

7. The race/ethnicity of respondents did have a statistically significant difference among the groups. Teachers of color had higher mean scores than White/European American teachers on the *Barriers* scale. This finding indicates that teachers of color were aware of the barriers that influence students of color and students with disabilities not to enroll in agricultural education programs.

8. A statistically significant difference did not exist between respondents' school setting and mean scores on the *Barriers* scale. However, descriptive analysis reveals those teachers who taught in rural school settings had higher mean scores than did teachers from the other groups.

Null Hypothesis Three

1. A statistically significant difference did not exist between respondents' selected teaching area and the *Solutions* scale. However, descriptive analysis reveals that Area V teachers had the highest mean score average among the groups.

2. The age of respondents had no statistically significant difference on the *Solutions* scale. Nevertheless, descriptive analysis showed that teachers in the age range

of > 30 and 35 to 39 years old had higher overall mean scores than did the other age groups.

3. Gender was found to show a statistically significant difference in mean scores on the *Solutions* scale. This finding indicates that females tended to agree more with the proposed solutions to increasing diversity inclusion in agricultural education programs than their male counterparts. This conclusion refutes the findings by Park (2004) which concluded that male teachers had significantly more positive attitudes about inclusive settings than did their female counterparts. This study also refutes the findings by Pearman, Huang, Barnhart, and Mellblom (1992) which reported that male teachers had a significantly higher amount of negative opinions about inclusion than did their female counterparts.

4. Years of teaching had no overall statistically significant difference on the *Solutions* scale. However, through descriptive analysis, the study found that teachers who had less than 5 years of service had higher mean scores than did the other groups.

5. A statistically significant difference did not exist between those teachers who received preservice diversity/multicultural training and those teachers that did not on the *Solutions* scale. However, descriptive analysis reveals those teachers that did not receive preservice training had higher mean scores.

6. A statistically significant difference did not exist in *Solutions* scores found between those teachers who received inservice diversity/multicultural training and those teachers that did not. Conversely, descriptive analysis reveals those teachers that did not receive inservice training had higher mean scores.

7. The race/ethnicity of respondents did have a statistically significant difference among the groups. Teachers of color had higher mean scores than White/European American teachers on the *Solutions* scale. This finding indicates that teachers of color tended to agree more with the proposed solutions to increase diversity inclusion in secondary agricultural education programs than did their counterparts.

8. A statistically significant difference existed between teachers who taught in an urban setting and teachers who taught in a rural setting on proposed solutions to increase diversity inclusion in secondary agricultural education programs. This finding indicates that teachers who taught in urban settings typically agreed more to the statements in the *Solutions* scale.

Recommendations

Recommendations for Practice

Based on the findings and conclusions of this research, the following recommendations for practice are made concerning increasing diversity inclusion in secondary agricultural education programs.

1. Texas agricultural education teachers tended to have favorable attitudes toward diversity inclusion in secondary agricultural education programs. Based on these findings, efforts should be made by agricultural education teachers to ensure that students of color and students with disabilities are persuaded to enroll in agricultural education courses. Beginning agricultural education courses such as *Introductory to Agricultural Science* (AGSC) 101 and 102 could provide excellent opportunities for these students to be introduced to agricultural education. Additionally, local FFA

chapters could be utilized as a recruitment tool for students of color and students with disabilities. If, as the literature suggests, Texas secondary agricultural education teachers do favor diversity inclusion, then respondents should promote and encourage greater participation of diverse students into agricultural education programs.

2. The findings in this study reveal that agricultural educators are not enrolling in diversity/multicultural courses in an undergraduate academic program. The high percentage of concurrence that diversity/multicultural training is not happening at the undergraduate level could indicate that many preservice teachers are not being prepared adequately to serve a diverse mixture of students in secondary agricultural education programs. These results suggest that preservice teacher education programs need to incorporate a greater focus on the aspects of the courses that will provide preservice teachers with diversity/multicultural training at the undergraduate level. Data of demographic trends in public schools imply that this type of training is warranted. If agricultural educators are to stay abreast of the demographic shift occurring in public schools, diversity and multicultural education courses must be a vital part of the undergraduate curriculum.

3. The findings in this study imply that agricultural education provides numerous benefits to both students of color and students with disabilities. One implication of this finding is that Texas agricultural education teachers' efforts to highlight the importance and benefits of agricultural education in general have succeeded. Once more, it is imperative that agricultural educators, parents, policymakers, and students continue to

develop effective recruitment and retention initiatives that will aide in attracting and retaining underrepresented populations in agricultural education and FFA.

4. Results from this study indicate that Texas secondary agricultural education teachers agreed or strongly agreed to the statement: “The inclusion of diverse populations in agricultural education is a benefit for the entire school community.” One implication of this finding is that Texas secondary agricultural education teachers view their perspective departments as inclusive programs. Based on this implication, Texas secondary agricultural education teachers seem to have a profound impact on the image of diversity inclusion in secondary education. Therefore, the opportunity for agricultural education teachers to bring exposure to the implementation of inclusive programs for the entire school community is warranted. Agricultural education teachers should use this valuable attribute to promote an overall inclusive school culture.

5. The findings in this study reveal that Texas secondary agricultural education teachers agree that a lack of role models hindered the participation of students of color and students with disabilities in agricultural education. Given this fact and based upon previous research (Williams, 1992; Jones & Bowen, 1998; and Osborne, 1994), agricultural educators should seek to identify diverse individuals from agricultural backgrounds to encouraged underrepresented groups to enroll in agricultural education courses. By demonstrating evidence of a collaborative, trusting, and respectful relationship with potential role models from underrepresented groups, Texas agricultural education teachers may persuade students of color and students with disabilities to become engaged in secondary agricultural education programs.

6. Results from this study indicate that Texas agricultural education teachers agreed to the statement: “Teaching materials should reflect a diverse society in agricultural education.” One implication from this finding is that course materials in secondary agricultural education fail to imitate the demographic shifts occurring in schools and society. Based on this implication, secondary agricultural educators should reexamine text books, course materials, and other agricultural education related material to see if its contents are inclusive of images of students of color and students with disabilities. It also would be beneficial for agricultural educators to seek out other agricultural education related teaching materials with model inclusive material if possible, so that comparisons between levels of inclusive content can be made, and the extent to which course content providers to involve a diverse society can be examined.

7. Results reveal that Texas secondary agricultural education teachers disagree with the statement: “Improper classroom modifications are a barrier to diversity inclusion for students with disabilities in agricultural education.” One implication from this finding is that Texas secondary agricultural education teachers believe to have successfully reduced improper classroom modifications for students with disabilities. Based on the implication, secondary agricultural educators should collaborate with other school officials to ensure that improper classroom modifications are not preventing students with disabilities from participating in all school programs, thus creating difficulty with the transitions within an inclusive atmosphere.

8. Texas secondary agricultural education teachers agreed to the statement: “For all students to achieve in school, educators, parents, and policymakers must develop

strategies to address the different learning styles of all students.” One implication from this finding is Texas secondary agricultural educators understand the importance of collaborative efforts to implement a diverse and inclusive atmosphere. Based upon the implication, Texas secondary agricultural educators should continue to develop diversity inclusive practices to ensure that appropriate methods to teaching a diverse population are sufficient. School districts should see to it that teachers are developing inclusive strategies that will foster an equitable pedagogy (Gay, 2000).

9. Texas secondary agricultural educators agreed that secondary agricultural education programs could provide students of color and students with disabilities with leadership development and career success opportunities. One implication from this finding is that secondary agricultural education programs can provide necessary life skills to students beyond the scope of just traditional agricultural based knowledge. Based on the implication, deliberate efforts should be made to use the National FFA Organization as a tool that effectively could recruit diverse students in agricultural education. Local programs also should develop initiatives that would bring exposure to the opportunities that FFA offers (Warren & Alston, 2007).

Recommendations for Additional Research

1. Because of the success of using a web-based survey, researchers should promote and encourage the use of the Internet as a reliable and valid tool for accessing a wide range of individuals for conducting social science research.

2. A statistically significant difference exists in mean scores among teachers on the benefits of diversity inclusion in secondary agricultural education programs. Further

research at a qualitative level should be conducted to examine why these differences exist.

3. A statistically significant difference exists in mean scores among teachers of color and white teachers on the barriers to increasing diversity inclusion in secondary agricultural education programs and the proposed solutions to increasing diversity inclusion in secondary agricultural education programs. Additional research should be done with teachers of color and White teachers to determine if personal or situational characteristics caused this difference to exist between the groups.

4. A statistically significant difference exists in mean scores among teachers by school setting on the proposed solutions to increase diversity inclusion in secondary agricultural education programs. Additional research should be conducted to examine why these differences exist.

5. Additional research of a qualitative nature should be conducted with agricultural education teachers to develop effective strategies to increase diversity inclusion in secondary agricultural education programs. Case studies involving successful inclusive programs could provide strategies and recommendations to other teachers as well.

6. Future research should be conducted with similar populations to examine if differences exist among agricultural education teachers regarding diversity inclusion.

7. In terms of teachers of color, very few were selected randomly among the sample population. Additional research should incorporate a stratified random sampling

procedure to ensure that respectable populations of certain subgroups within the target population are represented.

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APPENDIX A
INSTITUTIONAL REVIEW BOARD-HUMAN SUBJECTS IN RESEARCH
APPROVAL LETTER

U

Page 1 of 1

TEXAS A&M UNIVERSITY
DIVISION OF RESEARCH AND GRADUATE STUDIES - OFFICE OF RESEARCH COMPLIANCE

1186 TAMU, General Services Complex
 College Station, TX 77843-1186
 750 Agronomy Road, #3500

979.458.1467
 FAX 979.862.3176
<http://researchcompliance.tamu.edu>

Institutional Biosafety Committee Institutional Animal Care and Use Committee Institutional Review Board

DATE: 10-Jun-2008

MEMORANDUM

TO: LAVERGNE, DOUGLAS
 77843-3578

FROM: Office of Research Compliance
 Institutional Review Board

SUBJECT: Initial Review

Protocol Number: 2008-0313

Title: Perceptions of Texas Agricultural Education Teachers Regarding Diversity Inclusion in Secondary Agricultural Education Programs

Review Category: Exempt from IRB Review

It has been determined that the referenced protocol application meets the criteria for exemption and no further review is required. However, any amendment or modification to the protocol must be reported to the IRB and reviewed before being implemented to ensure the protocol still meets the criteria for exemption.

This determination was based on the following Code of Federal Regulations:
<http://www.hhs.gov/ohrp/humansubjects/guidance/45cfr46.htm>

45 CFR 46.101(b)(2) Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior, unless: (a) information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; and (b) any disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation.

Provisions:

This electronic document provides notification of the review results by the Institutional Review Board.

APPENDIX B

PERMISSION EMAIL TO MODIFY INSTRUMENT

Lavergne, Doug

From: Dr. Antoine J. Alston [alston@ncat.edu]
Sent: Tuesday, September 30, 2008 3:03 PM
To: Lavergne, Doug
Cc: akwarter@ncat.edu
Subject: RE: Permission to use and modify instrument

Hello Doug,

You have permission to use and modify the survey as needed. Take care.

From: Lavergne, Doug [mailto:DLavergne@aged.tamu.edu]
Sent: Tuesday, September 30, 2008 4:00 PM
To: Dr. Antoine J. Alston
Subject: Permission to use and modify instrument

Dr. Alston,

Good afternoon. I am sending this e-mail as a request to use and modify the survey instrument that you and Dr. English created for your study entitled: An Analysis of Diversity Inclusion In North Carolina Secondary Agricultural Education Programs. I would like to use the instrument in my dissertation. Thanks and good day.

Douglas D. LaVergne
 Graduate Teaching Assistant / Ph.D Candidate
 Texas A&M University
 (979) 862-7650 / (985) 397-3764 cell
<http://www.aged.tamu.edu/workgroups/teachers.aspx>

APPENDIX C
PRE-NOTICE COVER LETTER

June 30, 2008

Dear Texas Agricultural Science Teacher,

You have been randomly selected to participate in a study being conducted by Texas A&M University regarding the perceptions of Texas agricultural education teachers regarding the image of diversity inclusion in secondary agricultural education programs across the state.

In about one week from the above date, you will receive an e-mail containing a link that will direct you to the web-based questionnaire. The questionnaire will take approximately 10 minutes for you to complete.

I am writing in advance because we want to make you aware of your importance in participating in this study. With the increase in the number of students of color and students with disabilities in agricultural education, we believe that this study is needed so that current and future secondary agricultural science teachers will be aware of the state of agricultural education towards the need to become more diverse in their roles as teachers and advisors.

Thank you for your time and consideration. **It's only with the generous assistance of people like you that this study will be a success.** If you have any questions or would like a paper copy of the questionnaire, please contact either of us at the information below.

Sincerely,

Douglas D. LaVergne, PhD Candidate
Texas A&M University
131 Scoates Hall
2116 TAMU
College Station, TX 77843-2116
Office: (979) 862-7650
E-mail: dlavergne@aged.tamu.edu

Alvin Larke, Jr., Professor
Texas A&M University
105B Scoates Hall
2116 TAMU
College Station, TX 77843-2116
Office: (979) 862-3008
Email: a-larke@tamu.edu

APPENDIX D
FIRST E-MAIL NOTICE LETTER



July 7, 2008

Dear Texas Agricultural Science Teacher,

About a week ago we mailed you a letter indicating that you had been selected randomly to participate in a study being conducted by Texas A&M University regarding Texas agricultural education teacher's perceptions with respect to the image of diversity inclusion in secondary agricultural education programs.

What is "Diversity Inclusion?"

Diversity Inclusion is an educational philosophy that welcomes all learners by actively engaging them in secondary agricultural education programs regardless of their race, ethnicity, or exceptionality. Diversity Inclusion is also the act of acknowledging these differences and in turn, fostering an atmosphere to effectively teach every student in the classroom.

By *clicking the link below* you will be directed to the questionnaire. I realize that your time is very valuable, and I ask you to take approximately 10 minutes to complete it.

Thank you for your time and consideration. **It is only with the generous assistance of people like you that this study will be a success.** If you have any questions or would like a paper copy of the questionnaire, please contact either of us at the information below.

To access the questionnaire:

1. [CLICK HERE](#)

Sincerely,

Douglas D. LaVergne, PhD Candidate
Texas A&M University
131 Scoates Hall
2116 TAMU
College Station, TX 77843-2116
Office: (979) 862-7650
E-mail: dlavergne@aged.tamu.edu

Alvin Larke, Jr., Professor
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105B Scoates Hall
2116 TAMU
College Station, TX 77843-2116
Office: (979) 862-3008
Email: a-larke@tamu.edu

APPENDIX E
SECOND E-MAIL NOTICE LETTER



July 10, 2008

Dear Texas Agricultural Science Teacher,

A few days ago, you were sent an e-mail requesting your participation in a study being conducted regarding Texas agricultural science teacher's perceptions of diversity inclusion in secondary agricultural education programs. ***If you have completed this questionnaire, thank you very much for your time and participation, and please disregard this notice.*** If you have not completed the questionnaire, please click on the link below or cut and paste it into your web browser address bar.

https://www.surveymonkey.com/s.aspx?sm=JtvmLOrLUduRtL7OUorM2w_3d_3d

As stated in the original mailing, your participation is highly valued. Many of the individuals selected for this study have responded and we did not want to miss out on your perceptions.

As former agricultural science teachers, we realize that your time is very valuable. We graciously ask you to take approximately 10 minutes to complete the questionnaire. **We realize that this information can only be attained from people like you.** If you have any questions or would like a paper copy of the questionnaire, please contact either of us at the information below.

Sincerely,

Douglas D. LaVergne, PhD Candidate
Texas A&M University
131 Scoates Hall
2116 TAMU
College Station, TX 77843-2116
Office: (979) 862-7650
E-mail: dlavergne@aged.tamu.edu

Alvin Larke, Jr., Professor
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105B Scoates Hall
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APPENDIX F
THIRD E-MAIL NOTICE LETTER



August 4, 2008

Dear Texas Agricultural Science Teacher,

Hope that your summer is going well! It was good to see many of you in Lubbock and Corpus Christi for the state FFA convention and Ag teachers' conference. Dr. Larke and I both wish you well for the upcoming school year. The secondary purpose for this correspondence is to encourage you to participate in a study regarding Texas agricultural science teacher's perceptions of diversity inclusion in secondary agricultural education programs. *If you have completed this questionnaire, thank you very much for your time and participation, and please disregard this notice.* If you have not completed the questionnaire, please click on the link below or cut and paste it into your web browser address bar.

https://www.surveymonkey.com/s.aspx?sm=JtvmLOrLUduRtL7OUorM2w_3d_3d

Again, your participation is highly valued. Many of the individuals selected for this study have responded and we did not want to miss out on your perceptions.

As former agricultural science teachers, we understand the importance of time. We graciously ask you to spend approximately 10 minutes to complete the questionnaire. **Information pertaining to Texas agricultural education programs can only be successfully attained from Texas agricultural science teachers.** If you have any questions or would like a paper copy of the questionnaire, please contact either of us at the information below.

Sincerely,

Douglas D. LaVergne, PhD Candidate
Texas A&M University
131 Scoates Hall
2116 TAMU
College Station, TX 77843-2116
Office: (979) 862-7650
E-mail: dlavergne@aged.tamu.edu

Alvin Larke, Jr., Professor
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105B Scoates Hall
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College Station, TX 77843-2116
Office: (979) 862-3008
Email: a-larke@tamu.edu

APPENDIX G
FOURTH E-MAIL NOTICE LETTER



August 11, 2008

Dear Texas Agricultural Science Teacher,

Hope that this letter finds you in good spirit. The purpose for this correspondence is to encourage and remind you that your participation in this study is still very important. If you have not completed the questionnaire, please click on the link below or cut and paste it into your web browser address bar.

https://www.surveymonkey.com/s.aspx?sm=JtvmLOrLUduRtL7OUorM2w_3d_3d

Again, your participation is highly valued. Many of the individuals selected for this study have responded and we did not want to miss out on your perceptions.

As former agricultural science teachers, we understand the importance of time. We graciously ask you to please take approximately 10 minutes to complete the questionnaire. **Information pertaining to Texas agricultural education programs can only be successfully attained from Texas agricultural science teachers.** If you have any questions or would like a paper copy of the questionnaire, please contact either of us at the information below.

Sincerely,

Douglas D. LaVergne, PhD Candidate
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131 Scoates Hall
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APPENDIX H
FIFTH E-MAIL NOTICE LETTER



August 18, 2008

Dear Texas Agricultural Science Teacher,

During the last couple of weeks, I have sent you several e-mails about an important study that we are conducting. The purpose for this correspondence is to encourage and remind you that your participation in this study is still very important. If you have not completed the questionnaire, please click on the link below or cut and paste it into your web browser address bar.

https://www.surveymonkey.com/s.aspx?sm=JtvmLOrLUduRtL7OUorM2w_3d_3d

Again, your participation is highly valued. Many of the individuals selected for this study have responded and we did not want to miss out on your perceptions.

As former agricultural science teachers, we understand the importance of time. We graciously ask you to please take approximately 10 minutes to complete the questionnaire.

Information pertaining to Texas agricultural education programs can only be successfully attained from Texas agricultural science teachers. If you have any questions or would like a paper copy of the questionnaire, please contact either of us at the information below.

Sincerely,

Douglas D. LaVergne, PhD Candidate
 Texas A&M University
 131 Scoates Hall
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 Office: (979) 862-3008
 Email: a-larke@tamu.edu

APPENDIX I
FINAL E-MAIL NOTICE LETTER



August 20, 2008

Dear Texas Agricultural Science Teacher,

Thank you for graciously taking time out of your busy schedule to assist us in gaining valuable information concerning Texas agricultural education teachers and programs across the state. During the last couple of weeks, several e-mails were sent out and many of you responded. Our sincere gratitude and appreciation goes out to all of you for helping us in this effort. The purpose for this correspondence is to inform you that the study will be closing on Thursday, August 21, at 5 p.m. If you would like to participate in the study, please click on the link below or cut and paste it into your web browser address bar.

https://www.surveymonkey.com/s.aspx?sm=JtvmLOrLUduRtL7OUorM2w_3d_3d

Many of the individuals selected for this study have responded. We strongly encourage you to consider taking part in this study.

If you have any questions or would like a paper copy of the questionnaire, please contact either of us at the information below.

Sincerely,

Douglas D. LaVergne, PhD Candidate
Texas A&M University
131 Scoates Hall
2116 TAMU
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Office: (979) 862-7650
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APPENDIX J
QUESTIONNAIRE

**Perceptions of Texas Agricultural Education Teachers Regarding Diversity
Inclusion in Secondary Agricultural Education Programs**



Questionnaire

The Department of Agricultural Leadership, Education, and Communications at Texas A&M University is conducting a study to better understand the perceptions of Texas agricultural science teachers regarding diversity inclusion in secondary agricultural programs across the state.

What is "Diversity Inclusion?"

Diversity inclusion is an educational philosophy that welcomes all learners by actively engaging them in secondary agricultural education programs regardless of their race, ethnicity, or exceptionality. Diversity inclusion is also the act of acknowledging these differences and in turn, fostering an atmosphere to effectively teach every student in the classroom.

Demographically, public schools in the state of Texas have changed considerably. We are interested in what YOU think about the benefits of diversity inclusion, the barriers of diversity inclusion, and proposed solutions to increase diversity inclusion in secondary agricultural science programs in Texas. Your opinions are very valuable to us because you and people like you, are the most important source for this information.

The questionnaire is divided into four parts. Please read the directions for each part before responding. All individual responses will remain completely anonymous. If you have any questions about this questionnaire, please contact me at the information below.

Sincerely,

Douglas D. LaVergne, PhD. Candidate
Department of Agricultural Education
Texas A&M University - 2116 TAMU
College Station, TX 77843-2116
Ph: 979-862-7650 / Fax: 979- 845-6926
Email: dlavergne@aged.tamu.edu

START HERE...**Part I: Perceptions of Benefits Toward Diversity Inclusion**

Directions: The purpose of the following section is to describe your perceptions toward diversity inclusion in secondary agricultural education programs. Circle the choice that best describes your feelings as it relates to each statement.

Key

- 1= Strongly Disagree**
2= Disagree
3= Agree
4= Strongly Agree

- | | | | | |
|--|---|---|---|---|
| 1. There are benefits for the inclusion of students of color in agricultural education programs. | 1 | 2 | 3 | 4 |
| 2. There are benefits for the inclusion of students with disabilities in agricultural education programs. | 1 | 2 | 3 | 4 |
| 3. Providing students of color with leadership development opportunities will have a positive impact on agricultural education programs. | 1 | 2 | 3 | 4 |
| 4. Diversity inclusion in my agricultural education program can have a positive impact on other programs across the state. | 1 | 2 | 3 | 4 |

Continue to Next Page



Part I Items (cont')

- | | | | | |
|---|---|---|---|---|
| 5. Providing students with disabilities with leadership development opportunities will have a positive impact on agricultural education programs. | 1 | 2 | 3 | 4 |
| 6. Providing students of color with career success opportunities will have a positive impact on agricultural education programs. | 1 | 2 | 3 | 4 |
| 7. Providing students with disabilities with career success opportunities will have a positive impact on agricultural education programs. | 1 | 2 | 3 | 4 |
| 8. The inclusion of diverse populations in agricultural education is a benefit for the entire school community. | 1 | 2 | 3 | 4 |
| 9. Diversity inclusion can improve social relationships between White students and students of color and in agricultural education. | 1 | 2 | 3 | 4 |
| 10. Diversity inclusion can improve social relationships between students with and without disabilities in agricultural education. | 1 | 2 | 3 | 4 |
| 11. I believe diversity inclusion helps students of color improve academically. | 1 | 2 | 3 | 4 |
| 12. I believe diversity inclusion helps students with disabilities improve academically. | 1 | 2 | 3 | 4 |

Continue to next page



Part II: Perceived Barriers Toward Diversity Inclusion

Directions: The purpose of the following section is designed to gauge your perceptions on the perceived barriers to diversity inclusion in secondary agricultural education programs. Circle the choice that best describes your feelings as it relates to each statement.

Key

1= Strongly Disagree

2= Disagree

3= Agree

4= Strongly Agree

- | | |
|--|------------------|
| 1. A lack of role models hinders the participation of students of color in agricultural education. | 1 2 3 4 |
| 2. A lack of role models hinders the participation of students with disabilities in agricultural education. | 1 2 3 4 |
| 3. Negative stereotypes are a primary reason why students of color do not enroll in agricultural classes. | 1 2 3 4 |
| 4. Negative stereotypes are a primary reason why students with disabilities do not enroll in agricultural classes. | 1 2 3 4 |

Continue to next page 

Part II Items (cont')

- | | | | | |
|--|---|---|---|---|
| 5. The perception of agriculture itself influences the participation of students of color in agricultural education. | 1 | 2 | 3 | 4 |
| 6. The perception of agriculture itself influences the participation students with disabilities in agricultural education. | 1 | 2 | 3 | 4 |
| 7. Acceptance by peers is a barrier to diversity inclusion by students of color in agricultural education. | 1 | 2 | 3 | 4 |
| 8. Improper classroom modifications are a barrier to diversity inclusion for students with disabilities in agricultural education. | 1 | 2 | 3 | 4 |
| 9. The lack of information about agricultural education has an impact of students of color perceptions of agricultural education. | 1 | 2 | 3 | 4 |
| 10. The student demographics of my agricultural program reflect the demographics of my school. | 1 | 2 | 3 | 4 |
| 11. The student demographics of my FFA organization reflect the demographics of my school. | 1 | 2 | 3 | 4 |
| 12. Parental attitudes about agricultural education play an important role in students of color decisions to enroll in agricultural education. | 1 | 2 | 3 | 4 |

Continue to next page



Part III: Proposed Solutions to Increase Diversity Inclusion

Directions: The purpose of the following section is designed to gauge your perceptions on possible strategies or solutions that would promote diversity inclusion in secondary agricultural education programs. Circle the choice that best describes your feelings as it relates to each statement.

Key

1= Strongly Disagree

2= Disagree

3= Agree

4= Strongly Agree

1. For all students to achieve in school, educators, parents, and policymakers must develop strategies to address the different learning styles of all students. 1 2 3 4
2. Secondary agricultural education teachers need training in multicultural education. 1 2 3 4
3. Multicultural education is a strategy that can be utilized to promote an attitudinal change toward diversity inclusion in secondary agricultural education. 1 2 3 4
4. It is important for colleges and universities to incorporate more multicultural education classes in their pre-service teacher preparation curriculums. 1 2 3 4

Continue to next page



Part III Items (cont')

- | | |
|---|---------------|
| 5. Multicultural education can be used to increase the awareness of students with disabilities in relation to diversity. | 1 2 3 4 |
| 6. Multicultural education can be used to increase the awareness of students of color in relation to diversity. | 1 2 3 4 |
| 7. Teaching materials should reflect a diverse society in agricultural education. | 1 2 3 4 |
| 8. Agricultural education teachers should become familiar with the students of color represented in their classrooms in order to promote an atmosphere of acceptance and cooperation. | 1 2 3 4 |
| 9. A state-wide support network for agricultural educators would enhance diversity inclusion in agricultural education. | 1 2 3 4 |
| 10. Mentoring is a strategy that could be utilized to increase diversity inclusion in secondary agricultural education. | 1 2 3 4 |
| 11. An increase in recruitment efforts by agricultural educators would enhance diversity inclusion in agricultural education. | 1 2 3 4 |
| 12. Agricultural educators should encourage and strive to increase students of color membership in FFA. | 1 2 3 4 |

Continue to next page



Part IV: Personal Characteristics

Directions: Please indicate your response to the following questions.

1. What is your age: _____
2. What area (as defined by the Texas FFA Association) do you teach in?
Area _____
3. What is your gender?
_____ Male
_____ Female
4. At the completion of this school year, how many years have you been teaching secondary agriculture?
_____ years
5. Did you have any kind of diversity/multicultural training in your undergraduate curriculum?
_____ Yes
_____ No
6. Have you ever had any diversity/multicultural training outside of a college or university requirement?
_____ Yes
_____ No
7. What is your Race/Ethnicity?
_____ Asian
_____ Black/African-American
_____ Hispanic/Latino
_____ Native-American
_____ White/European-American
8. Which of the following best describes your school setting most accurately?
_____ Rural
_____ Suburban
_____ Urban

In the space provided below, provide any additional comments you wish to share:

Please return the completed questionnaire in the prepaid return envelope
THANK YOU FOR YOUR TIME AND ASSISTANCE!

VITA

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