Perceptions of Georgia School-Based Agricultural Education Teachers Regarding the Inclusion of Students with Disabilities in the Agriculture Classroom and Supervised Agricultural Experience

by

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Abstract

The purpose of this study was to examine the perceived level of importance of and competence of Georgia's SBAE teachers when working with Students with Disabilities in the classroom and Supervised Agricultural Experiences (SAEs). The participants in this study were high school agricultural education teachers in the state of Georgia. This study used a post-positivist, descriptive correlational research design. The data was analyzed and reported utilizing mean weight discrepancy scores (MWDS), multivariate analysis of variance (MANOVA), frequencies, mean, standard deviation, percentages, as well as personal demographic characteristics such as years' experience, degree completion, and gender. The resulting data can be used to determine any changes that need to made during pre-service, undergraduate courses, along with any professional development opportunities that can be provided to inservice teachers.

The data illustrates that teachers identify that working with students with disabilities in the area of Individualized Education Programs and assisting them in the classroom and during Supervised Agricultural Experiences to have high importance however they perceive themselves to have lower competency levels across all constructs. The tasks associated with each construct were rated by level of perceived importance and competency in completing that task. These scores were evaluated using MWDS. By evaluating and ranking the MWDS data, recommendations were made to guide professional development and future research.

Acknowledgments

When I was a young girl, I would tell anyone who would listen that when I grew up, I was going to attend Auburn University to become a large animal veterinarian. Although my plans and goals changed along the way, I have no doubt that today I am where I am meant to be. It has been a dream come true to not only earn my Educational Specialist degree from Auburn, but now my Doctorate as well. I have learned so much through my time in this program and I am forever grateful and thankful for the experience.

My graduate school journey has had its share of ups and downs. Days where I questioned my capability and choices, others where I knew I was on the right track. No matter the day, mindset, or progress point, my family stood by my side and cheered me along. I could not have made it through this process without my family's encouragement and support. Thank you for believing in me every step of the way.

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CHAPTER I: INTRODUCTION

With an increased population of roughly 300 million students served under the Individuals with Disabilities Education Act in the school-based agricultural education (SBAE) classroom, many agriculture educators are reevaluating their teaching strategies (Teixeira & Edwards, 2020, p.76) Past studies such as, "The Impacts of Inclusive Learning on Special Needs Students, Traditional Students and Faculty in The Agricultural Education Classroom;" "Determining the Inclusiveness of Students with Disabilities in Iowa Agricultural Classrooms;" "Identifying Confidence Levels and Instructional Strategies of High School Agricultural Education Teachers When Working with Students with Special Needs;" have identified inclusion strategies, benefits and barriers, along with teacher confidence of the inclusion of students with disabilities in the agriculture classroom. Other studies conducted by Johnson et al. (2012) identified that 58% of agriculture teachers agreed that there is a need for further training in the inclusion of students with disabilities in Supervised Agricultural Experiences. The purpose of this study was to examine the perceived level of importance of and competence of Georgia's SBAE teachers when working with Students with Disabilities in the classroom and Supervised Agricultural Experiences (SAEs).

Competency Motivation Theory

Agricultural Education is built around the three-ring model of instruction: classroom instruction, supervised agricultural experiences, and FFA (Croom, 2008). While all three serve a different purpose and use different educational strategies, they should all be valued and weigh the same in an agriculture program (Phipps et al., 2008). The supervised agricultural experience (SAE) ring uses experiential learning theory and promotes career ready and problem-solving skills while expanding upon knowledge learned in the classroom. These are valuable skills that

all students can benefit from (Retallick, 2010). SAEs have also been proven to increase cognitive and social skills among students with disabilities.

The diversity of Agricultural Education students has continuously increased over the past 6 decades with the inclusion of various races, females, and students with special needs in the vocational classroom (Tiexeira & Edwards, 2020). The Vocational Education Act of 1963 required that students with disabilities have access to taking school-based agricultural education classes or vocational classes. Today, roughly 14% of our students in school-based agricultural education classes are classified as students with disabilities (Johnson et al., 2021, p.1). These students with disabilities are served by the Individuals with Disabilities Education Act.

In 1975, the Education for All Handicapped Children Act (EHA) was passed by congress. This provided free and fair education opportunities for students with special needs. Fifteen years later in 1990, EHA was reauthorized and changed its name to the Individuals with Disabilities Education Act (IDEA). Additional changes were adding multiple disability categories and increasing the age frame of students covered by IDEA. IDEA has 6 main purposes:

- "to ensure that all children with disabilities have available to them a free appropriate public education that emphasizes special education and related services designed to meet their unique needs and prepare them for further education, employment, and independent living;
- to ensure that the rights of children with disabilities and parents of such children are protected;
- to assist States, localities, educational service agencies, and Federal agencies to provide for the education of all children with disabilities;

- to assist States in the implementation of a statewide, comprehensive, coordinated, multidisciplinary, interagency system of early intervention services for infants and toddlers with disabilities and their families;
- to ensure that educators and parents have the necessary tools to improve educational results for children with disabilities by supporting system improvement activities; coordinated research and personnel preparation; coordinated technical assistance, dissemination, and support; and technology development and media services;
- to assess, and ensure the effectiveness of, efforts to educate children with disabilities" (United States Department of Education, 2022, para. 7).

IDEA allows for accommodations or modifications to be made to testing materials or other educational materials for student learning using Individualized Education Plans (IEP) (Wilkins, 2018). IEPs are legal documents that aid students with special needs in gaining a better understanding of concepts and principles in the agriculture classroom (Individualized Education Programs, 2007). These documents explain the disability, identify student education and career goals, transition plans and list all required accommodations. IEP accommodations are provided by the educator and carried out by both an educator and/or a paraprofessional. Students with disabilities are classified by one or more of the 13 categories of disability which are as follows: visual impairment and blindness, speech-language impairment, traumatic brain injury, specific learning disability, other health impairment, significant development delay, intellectual disability, orthopedic impairment, deaf or hard of hearing, deafblind, autism, emotional and behavioral disorders, and multiple disabilities.

As inclusion rates increase, along with the need for a well-educated future workforce, it is important to determine the perceived level of importance and competency agriculture teachers

have when working with students with disabilities. Determining their level of understanding of Individualized Education Programs and best management practices of inclusion can lead to future professional development or more time spent in pre-service training in the area of inclusion to meet the needs of the student in accordance with IDEA.

Purpose of Study

The purpose of this study was to examine the perceived level of importance and competence of Georgia's SBAE teachers when working with Students with Disabilities in the classroom and Supervised Agricultural Experiences (SAEs). The following objectives were used to direct the study:

1. Report the personal characteristics of school-based agricultural education teachers in Georgia.
2. Determine the level of importance and competence of utilizing Individualized Education Programs (IEPs) as perceived by school-based agricultural education teachers in Georgia.
3. Determine the perceived importance and competency of school-based agricultural education teachers in Georgia when implementing best management practices to include students with disabilities in the classroom and Supervised Agricultural Experiences (SAEs).
4. Determine the perceived importance and competency of school-based agricultural education teachers in Georgia when including students with disabilities in the agriculture classroom and Supervised Agricultural Experiences (SAEs) based on learning challenges associated with their Individualized Education Program (IEP).
5. Identify changes in the inclusion of students with disabilities in the agricultural education classroom as observed by school-based agriculture education teachers in Georgia.

6. Determine the population of students with disabilities in the agriculture classroom participating in Supervised Agricultural Experiences (SAEs).

Significance of Study

During the school year of 2020-2021, there were over seven million students served under the Individuals with Disabilities Education Act (National Center for Education Statistics, 2022). This accounted for nearly 15% of all students in public schools. Of those students aged 16 and above, nearly 92% had an Individualized Education Program (IEP) that included appropriate and measurable post-secondary goals (NCES, 2022). Close to 85% of those students enrolled in higher education, were competitively employed, or had other employment immediately following high school graduation (NCES, 2022). The success of these students with disabilities could be credited to their inclusion in general education and career and technical education courses.

We live in an economically driven society (Zaremohzzabieh et al., 2021). Communities are continuously looking for a well-educated workforce. The importance of Career and Technical education courses in local high schools has increased over the years with the expansion of courses offered. These courses are designed to teach students of the community a skill or trade that either sparks their interest to become further educated in that area post high school or enter the workforce as a trained citizen after graduation. Studies have shown that students with disabilities were less likely to drop out of school and more likely to become successfully employed upon graduation if they were enrolled in Career and Technical education courses during their high school careers (Wonacott, 2001). These courses provide hands-on learning experiences that prepare students for a more independent and successful working future.

Agricultural Education is one of many clusters offered through Career and Technical Education. This cluster was created with the primary goal of training farmers to become educated and skilled practitioners. Over the years the education provided through agricultural education has expanded from solely farming to all aspects of agriculture. This education is guided by the use of three-ring model which consists of classroom instruction, FFA, and Supervised Agricultural Experiences (SAE) (Croom, 2008). Of these three components of agricultural education, SAE provides the most hands-on training and work-based learning opportunities (Harvey, 2001). These opportunities can prove to be very beneficial to students with disabilities who are looking for education in a skill to become workforce ready (Harvey, 2001).

Although there is an increase in students with disabilities entering the agriculture classroom, Stair and Moore suggests that many agricultural education teachers perceive themselves as being unprepared to address the needs of students with disabilities (2010). By examining Georgia SBAE teacher's perceived competency and importance level of the inclusion of students with disabilities in the agricultural education classroom and those placed in Supervised Agricultural Experiences, I was able to attempt to assess which areas teachers deem more important and need more assistance in training in. This research is intended to determine the areas of least importance and least confident, the intent is to inform our field in attempt to better prepare our future agriculture teachers for the inclusion of students with disabilities in the agriculture classroom. Being that SAEs are a required component of agricultural education; it is important to first understand the teacher's basic knowledge of inclusion to then develop professional learning opportunities to meet their needs to increase student success in SAEs.

Definition of Terms

1. School-Based Agricultural Education: Instruction in the area of agriculture using the three-ring model of classroom instruction, FFA, and Supervised Agricultural experiences, based in local school systems (Barry et al., 2020).
2. Supervised Agricultural Experience (SAE): A required, out–of-class agricultural project in the areas of placement, entrepreneurship, research, or exploration that allows students to apply knowledge learned in the classroom to a real-life problem through work-based learning experience and teacher supervision (National Council for Agricultural Education, 2017)
3. Student with Disabilities: Any student who is being served under the Individuals with Disabilities Education Act due to a learning challenge (Center for Parent Information and Resources, 2017).
4. Individualized Education Program (IEP): A legal document that breaks down the student's disability, course goals, and specialized instruction or accommodations
5. Disabilities: any issue that interferes with a student's ability to learn (CPIR, 2017).
6. Accommodation: Changes made to the learning environment to aid in the learning ability of a student (Hamilton & Kessler, n.d.).
7. Modifications: Changes made to instruction and assessment (Hamilton & Kessler, n.d.).
8. Least Restrictive Environment: The inclusion of students with disabilities in the general education classroom when appropriate (CPIR, 2017).
9. Emotional and Behavioral Disorder: a chronic or excessive behavior that cannot be explained through various health, sensory, or intellectual factors (Georgia Department of Education, 2023).

10. Autism: a developmental disability that affects development, verbal and non-verbal communication, and social skills (GDOE, 2023).
11. Deafblind: a combination of visual and hearing impairments that affects communication and other developmental needs (GDOE, 2023).
12. Deaf or Hard of Hearing: hearing loss that interferes with auditory skills (GDOE, 2023).
13. Intellectual Disabilities: significantly lower intellectual functioning usually characterized by an IQ of 70 or lower (GDOE, 2023).
14. Orthopedic Impairment: impairment caused by a physical deformity or disease affecting the functionality of the body (GDOE, 2023).
15. Other Health Impairment: limited alertness and strength due to a chronic or acute health problem (GDEO, 2023).
16. Significant Developmental Delay: a delay in development causing a student's motor, communication, cognitive, and behavior skills to function at a lower level or age appropriateness (GDOE, 2023).
17. Specific Learning Disability: a disorder of the basic psychological processes such as understanding language and communication, as well as mathematical processes (GDOE, 2023).
18. Speech-language Impairment: a communication disorder that affects articulation, fluency, or language (GDOE, 2023).
19. Traumatic Brain Injury: an acquired injury to the brain that has caused a functional disability or psychological impairment (GDOE, 2023).
20. Visual Impairment and Blindless: congenital defects, disease, or injury to the eye that interferes with learning tasks (GDOE, 2023).

Assumptions

For the purpose of this study, it was assumed that:

1. The participants asked to participate in this study answered all questions honestly, based on their own perceptions, uninfluenced by social expectations.
2. The samples used in this study is an accurate reflection of the population of SBAE Teachers.

Limitations

Limitations experienced with the study:

1. This study was limited to high school agriculture teachers in the state of Georgia.
2. Low response rates affect the ability to generalize these findings.
3. Low response rates affect the ability to rely on statistical analysis and any interpretations.

Summary

The population of students with disabilities in the agriculture classroom has increased pressure for a workforce ready student (Harvey, 2001). Likewise, there is an increased need for research to be conducted to examine the SBAE teacher's perception of inclusion (Elbert & Baggett, 2003). The purpose of this study was to examine the perceived level of importance and competence of Georgia's SBAE teachers when working with Students with Disabilities in the classroom and Supervised Agricultural Experiences (SAEs).

The objectives were to: determine the level of importance and competence of utilizing Individualized Education Programs (IEPs) as perceived by SBAE teachers in Georgia, determine the perceived importance and competency of SBAE teachers in Georgia when implementing best management practices to include students with disabilities in the classroom and SAEs, determine the perceived importance and competency of SBAE teachers in Georgia when including students

with disabilities in the agriculture classroom and SAEs based on learning challenges associated with their IEP, Identify changes in the inclusion of students with disabilities in the agricultural education classroom as observed by SBAE teachers in Georgia, describe the population of students with disabilities in the agriculture classroom participating in SAEs, and to determine the personal characteristics of SBAE teachers in Georgia.

The results of this study could lead to a better understanding of the basic knowledge agriculture teachers have of Individualized Education Programs. By gaging the teacher's basic understanding, the researcher will be able to determine if there is a correlation between the understanding and importance placed on various components of the IEP and the inclusion of students with disabilities in the agriculture classroom and placed in Supervised Agricultural Experiences.

CHAPTER 2: LITERATURE REVIEW

Introduction

The sources used for this literature review were collected from primary sources including books, published research in scholarly journals, and dissertations. Many other resources were collected using online databases such as ERIC. This literature review is divided into eight sections: History of Agricultural Education, Evolution of Supervised Agricultural Experiences, Students with Disabilities Legislation, Individualized Education Programs, Edibility Categories Recognized in Georgia, Inclusion in the General education Classroom, Inclusion in the Agricultural Education Classroom, and Self-Efficacy.

History of Agricultural Education

Forms of agricultural education have been around since the beginning of time (True, 1929). Through its evolution over the years, its purpose has expanded (True, 1929). Agricultural education focuses on helping a student secure a job, train the student to ensure they can keep the job, and aid the student in advancing in their job (Dailey et al., 2001). It is a program of study that combines applied sciences, business management, and agriculturally related subjects. In addition to preparation for a future career, the student gains lifelong learning opportunities, personal and professional growth and development, and an understanding of basic agricultural skills and knowledge (Dailey et al., 2001). Over time with the evolution of agricultural education, three components were developed, classroom instruction, the National FFA Organization, and Supervised Agricultural Experiences (SAE), more commonly known as the three-ring model (National FFA Organization, 2021).

The beginning of structured and planned agricultural education began in 1785 (True, 1929). During this time, farmers formed the Philadelphia Society for Promoting Agriculture

(True, 1929). This society was created in order to draw attention to the agriculture industry, increase farmer productivity, and improve the rural way of life (Croom, 2008). The Philadelphia Society for Promoting Agriculture encouraged the movement to create more agricultural societies and eventually develop school programs for agriculture. Over the next seventy years, a farmer's high school was created in Pennsylvania, Yale University added three professors of the agricultural arts, and the Agricultural College of the State of Michigan was founded, this was paired with westward expansion and increased industrialization (Croom, 2008; True, 1929).

A push for agricultural education in the 1800s came from "the struggle for the creation of a Department of Agriculture and the movement toward agricultural education" (Duemer, 2007, p.136). Leaders such as Charles Prosser, Justin Morrill, Hoke Smith, and Dudley Hughes led the way for establishing agricultural education as we know today in the United States. In 1862 the Morrill Act formalized a higher education system that would meet the needs for an educated workforce in agriculture, mechanics, and military arts. The Morrill Act established Land-Grant Universities which created bachelorette levels of learning in the area of agriculture. Each state in the United States were awarded three hundred thousand acres of land and funding to establish their new college for agriculture. In 1890, the Morrill Act was amended to add more funding set aside for teacher education in agriculture and mechanical arts by establishing land-grant universities for African American students (Lawrence, 2022). The increased opportunities for students to be trained in the agricultural arts led to an increased need for agricultural educators to teach students.

The establishment of the Morrill Act, during 1875 – 1900, led to an increase in the number of states establishing residential agriculture schools with roughly 4,390 secondary schools offering agricultural education by 1915 (Moore, 2019). The increase of Land Grant

Universities, led to an opportunity to expand the knowledge being learned and share with the public. In 1887, the Hatch Act established research stations at Land Grant Universities. The purpose of the research stations was to increase research innovation in agriculture and share those findings with the public. The passing of this act helped increase in the number of high school agricultural education programs (Moore, 1987).

In the early 1900's, secondary agricultural education as a course of study was being pushed for establishment in county high schools. "Before the first significant federal funding for agricultural education arrived in 1917, at least thirty states had agricultural education programs operating in schools" (Croom, 2008, p. 113). Expanding agricultural education in schools on the federal level began a few years later in 1917 with the passage of the Smith-Hughes Act. Although agricultural education had been offered in high schools prior to this act, there was now an increased emphasis on the addition of these classes in schools with new funding and support at the federal level. "The newfound popularity of agricultural education with several thousand students enrolled in the early 1900s created a need to prepare agriculture teachers" (Herren & Hillison, 1996, p. 29). The Smith-Hughes Act provided funding for teacher training, teacher salaries, and establishing education programs in colleges to fill the increased demand for SBAE teachers (Croom, 2008). When regarding the students, the Smith-Hughes Act's "intent was to separate vocational students from those in the classical curriculum and prepare them well for the factories, farms, and homes of the era" (Wonacott, 2003, p. 9). In addition to providing agricultural education courses in secondary schools, the bill also stated that these courses should provide supervised practice in agriculture. This later became known as Supervised Agricultural Experiences. By the end of 1917, there were over thirty states that offered agricultural education in their high schools (Talbert et al., 2022).

From 1917 to the early 1960s, agricultural education in high schools continued to expand however the emphasis remained on training segregated males for production agriculture. “With the passage of the Smith-Hughes Act in 1917, the national coordination of agricultural education naturally made it convenient for the development of an organization for rural youth that encouraged best practices in agricultural production and provided and outlet for personal growth and development” (Croom, 2008, p. 114). By 1928, the demand for a national student organization in agricultural education had grown tremendously. This led to the establishment of Future Farmers of America, a national organization founded on the principles of preparing students for the agricultural needs of a growing nation.

Until the 1960s, agricultural education consisted of segregated, male students. With the civil rights movement and the legislation leading to the desegregation of public schools, agricultural education became more inclusive. In 1965, Future Farmers of America and New Farmers of America merged. New Farmers of America was the vocational agriculture organization for African American Males at the time due to segregation. Females were also formally excluded from the national organizations until 1969 (National FFA Organization, 2021).

In 1963, the National Vocational Education Act passed. “The basic purpose of the Federal effort in vocational education is to enable States to extend, improve, and maintain existing programs of vocational education for persons of substantially varying needs including such special need groups as handicapped, disadvantaged, language minorities, and women who want to enter traditionally male occupations” (Wolfe, 1978, p. 5). In addition, instruction was expanded to occupations that take place off the farm and other agricultural subjects (The Vocational Education Act of 1963, 1965). The addition of classes offered in agricultural

education and the introduction of the inclusion of students with disabilities helped increase student diversity and population. This increase in population peaked around 1976 with almost three quarters of a million agricultural education students (Rossetti et al., 1994).

Twenty-five years later at the beginning of the twenty first century, agricultural education is taught in all fifty states with soaring enrollment numbers (National FFA Organization, 2021). With nearly one million students enrolled in agricultural education at this time, the diversity of the population regarding gender, ethnicity, and ability level were at an all-time high. This diverse population can be contributed to many factors. According to Velez et al. (2018), minorities are attracted to school-based agricultural education programs due to "passionate SBAE teachers, high parent involvement and family influences, job preparation and skill development, hands on learning environment, response to social pressure, and academic achievements" (p.191). The vision and mission of agricultural education has also evolved over the years to adapt to the new diverse population. According to The Council (for agricultural education) the vision is "a world where all people value and understand the vital role of agriculture, food, fiber, and natural resource systems in advancing personal and global well-being" (2023, Para. 2). The National Council for Agricultural Education also sets the mission as "preparing students for successful careers and a lifetime of informed choices in the global agriculture, food, fiber, and natural resource systems" (2000, p.3).

Other adjustments made to agriculture education to meet the needs of a diverse population were emphasizing career preparation among the course pathways and in 2017, updating the SAE component of the three-ring model. In 2017, the SAE for All teacher and student guides were published to aid in the teaching process of Supervised Agricultural Experiences. According to SAE for All's handbook, "Supervised Agricultural Experience (SAE)

is a student-led, instructor supervised, work-based learning experience" (National Council for Agricultural Education, 2017).

Today, the decade of 2020, we are still seeing changes in agricultural education focusing on equity, diversity, and inclusion. When agricultural education began, it focused on the stereotypical agriculture student, the white male. Through legislative changes, agriculture education is now open to everyone. School-based agricultural education classes today are seeing fewer students with agriculture backgrounds and more students from urban or rural areas with no connections to agriculture in general. (Mercier, 2015). Agricultural education has worked towards meeting the needs of students from all backgrounds and ability levels. Agricultural education today has two main goals:

"1) Create successful, lifelong learners who are agriculturally liberate citizens,

2) Create a skilled agriculture workforce" (Barry et al., 2020)

Today there are over one million students enrolled in agricultural education in their local middle or high school with that number expected to grow. With grow will come larger numbers and a stronger push for the inclusion of students with disabilities. This is why this research needs to be conducted to help the future of agricultural education and special education.

Supervised Agricultural Experiences

Supervised Agricultural Experiences play a vital role in the three-ring model of agricultural education. Many document its beginning with the project-based method, however it can be seen in the early days of America through youth apprenticeships. There is evidence of said apprenticeships found in the records of Native Americans as well as the colonial period (Croom, 2008). As the years and education progressed, students began to be taught production

practices in school that could be taken back to their family farm and help them prosper in the future.

In the early 1900s, agricultural education focused much of their efforts on the project method created by Rufus Stimson. The project method or project-based farms, along with Rufus Stimson, helped direct federal legislation that would combine project based learning and secondary agricultural education (National Vocational Education Act, 1917; Smith & Rayfield, 2016). Stimson developed the project-based method or farming project to help prepare students for their future in farming by carrying out successful farming projects at home while building upon knowledge learned during the educational process (Smith & Reyfield, 2016; Stimson, 1919). Roberts and Harlin (2007) describe the project method as a "technique employed by a teacher in which a tangible goal or product provides the motivation for completion" (p. 46). When Stimson discussed school-projects, he found them to be unbeneficial as the student would not gain a profit, had no personal ownership, and many times was grouped together with one too many students (Croom, 2008). These projects rely on student interest and students set goals to increase motivation for completion. The purpose of these projects were to "improve existing farming projects, explore new areas of agriculture, and be entrepreneurial in nature" (Croom, 2008). Over the years, the intent of the project method has developed to fill a greater purpose. In addition to preparing students for their future careers as it was initially intended, the project-based method now also helps develop a wide range of beneficial skills aiding in the education process.

In 1942, in response to an increased need for agricultural student workforce, the success of the project method, and John Dewey's belief of connecting student experiences with their learning, Supervised Agricultural Experiences were implemented (Pirtle, 2012; Dailey et al.,

2001). The National Council for Agricultural Education explains that unlike Stimson's farming project, or project method, it is not necessary for SAEs to take place on a farm as long as the experience correlates with a student's agricultural interests and classroom instruction at the time (2017).

Baker et al. (2012) identified the purpose of SAE as building upon student interest and assisting in the development of meta-skills which aid the student in both the classroom and FFA. In a study conducted by Retallick (2010), "teachers reported using SAE to teach record keeping, record analysis, financial management, & money management as a means to enhance decision-making and employment skills while developing skills related to student responsibility" (p. 63). Retallick (2010) continued that for students to benefit from their SAE, it must be more than having the experience. Students must take the time to reflect, explain, and evaluate said experience in order to gain maximum knowledge and benefits (Retallick, 2010). Although the student must complete reflection, explanation, and evaluation, the experience is the heart of the project. This process is known as the experiential learning theory.

The basis of SAE is the same whether you look at the National FFA Organization manual or the recently developed teacher and student manual, SAE For All. The National FFA Organization defines SAE as "an entrepreneurial or work-based learning experience related to your career interests and goals" (2011, p. 11). SAE For All was originally developed in 2010, then revised in 2017 by the National Council for Agricultural Education. The National Council for Agricultural Education defines SAE as "a student-led, instructor supervised, work-based learning experience that results in measurable outcomes within a predefined, agreed upon set of agricultural, food, and natural resources (AFNR) technical standards and career ready practice aligned to a career plan of study" (2017, p.2). There are four purposes or benefits of completing

an SAE, gaining personal finance skills and profit, development of maturation, development of employment skills, and the recognition of achievements (Lewis et al., 2012).

There are two levels of SAEs, foundational and immersion (NCAE, 2017). A foundational SAE is considered the starting point when beginning the SAE journey. Foundational SAEs provide students with a basic understanding of agriculture and the choices to be made in 5 component areas (National Council for Agricultural Education, 2017). The five components of a foundational SAE are agricultural literacy, workplace safety, employability skills for college and career readiness, career exploration and planning, and personal financial planning (NCAE, 2017). Immersion SAEs are built upon the foundational knowledge learned of SAEs. These are more intensive, work-based learning experiences tied to agricultural industry pathways (NCAE, 2017). The five immersion SAE opportunities are entrepreneurship/ownership, placement/internship, research, school-based enterprise, and service learning.

Service-learning SAEs are projects that benefit the betterment of the school, community, or organization (NCAE, 2017). The benefits of this project must not include the school's FFA chapter. The students involved are asked to plan, conduct, and evaluate the entire SAE project (NCAE, 2017). Quality indicators used to examine the success of a service-learning SAE can be development of the service-learning plan, providing a summary report of impact, reflection paper about growth, or students reporting to management throughout the experience.

School-based enterprise SAEs allow the students to run a business at the school, using the school's facilities and equipment (NCAE, 2017). This SAE is a group effort from students working collaboratively together to sell a good or service. Quality indicators for a successful school-based enterprise SAE can include, developing a business plan, operating the business

under supervision of a management team, development of various responsibilities, and providing real world work expectations for students involved in the project (NCAE, 2017).

Research SAEs are experiments developed by the student. The student uses the scientific method to research a problem of their choice. There are two forms of research, analytical and invention (NCAE, 2017). Analytical follows the basic scientific method of asking a question and gathering data to answer the question. Invention is the development process of creating a new product or even service. This type of research also involves the testing of the new invention. Quality indicators for a research SAE include following, using best practices and/or the scientific method to conduct their research, conducting peer reviews throughout the research process, and presenting a summary of their findings (NCAE, 2017).

To complete an ownership or entrepreneurship SAE, a student must own and manage their own business. "Operational and risk management decisions on how goods and services are provided are made by the student owner" (NCAE, 2017, p. 16). The scope of the business must be sufficient to meet goals to develop skills that align with the Agricultural, Food, and Natural Resources Standards (NCAE, 2017). Quality indicators for an entrepreneurship SAE are maintaining current financial records, productivity analyses, and documenting the skills gained through the SAE process (NCAE, 2017).

The last type of immersion SAE is placement or internship. This SAE experience provides students with real life experiences in order to develop skills needed for a certain occupation. The student either has a paid or volunteer position working for a local employer. The employer serves as a trainer, supervisor, and evaluator. Quality indicators for a placement SAE is documenting hours worked, pay stubs, logging skills learned throughout the SAE process (NCAE, 2017).

A study conducted by Doss and Reyfield in 2019 resulted in identifying the most familiar SAE categories by agriculture teachers. “The most recognized category reported was the entrepreneurship category, while the least recognized was immersion” (Doss & Reyfield, 2019, p. 21). Immersion SAEs were introduced in 2011 which could contribute to the reason they are considered to be the least recognized category.

According to Wilson and Moore (2007) teachers in North Carolina reported that roughly 75% of their agriculture students were currently placed in a SAE program. In Georgia, per the required Program of Work, agriculture teachers are required to have a minimum of 60% of agriculture students placed in an SAE program. If teachers are to work off the minimum, this leaves 40% of students missing out on the benefits of SAEs.

While many agricultural educators may argue the size of the circles in the three-ring model and their importance in comparison to one another, Moore (2006) says that the SAE component is the smallest circle in the three-ring model. Lewis et al., (2012) contributes this to “lack of time, increased number of students in the classroom, complicated record keeping, limited school and community opportunities, lack of facilities, low student desire, lack of agriculture background, and lack of knowledge of the newer categories” (p. 72; Steele, 1997; Wilson & Moore, 2007). Although there are barriers that limit the perceived size of the SAE’s circle in the three-ring model, teachers agree that the SAE component is very important for agricultural education (Wilson & Moore, 2007).

SAEs are very beneficial to students in agricultural education. In a study conducted by Retallick (2010), “teachers reported using SAEs to teach record keeping, record analysis, financial management, and money management as a means to enhance decision-making and employment skills while developing skills related to student responsibility” (p. 63). SAE projects

provide students with an opportunity to determine their interests and gain skills in an area of agriculture to aid in their future career. Teachers have also noted that SAEs can be beneficial to students with disabilities. “SAEs allow students with special needs to flourish by providing opportunities to learn through hands-on approaches customized to their unique interests and abilities” (Teixeira & Edwards, 2020, p.86). In a study conducted by Yeamens (2011), the researcher found that 97% of agriculture teachers in North Carolina agreed that students with disabilities gain the same benefits from completing SAEs as general education students. 87% of those teachers also agreed that SAEs help students with disabilities determine their career interests and develop career goals (Yeamens, 2011). The success of students with disabilities completing an SAE and gaining the forementioned benefits all depends on the modifications, support, and positive influence of the agriculture teacher (Teixeria & Edwards, 2020). These factors are evaluated in this study to determine ways to better help teachers and students succeed with SAEs in the high school agriculture classroom.

Students with Disabilities in Agricultural Education Legislation

The last century of education has seen many legislative changes to maximize student learning, success, and inclusion. With the passing of laws such as the Vocational Education Act, IDEA, the Carl Perkins Acts, No Child Left Behind, and many more, there has been an increase in the number of students with disabilities being placed in the general education classroom.

In 1963, the Vocational Education Act of 1963 was passed. The Vocational Education Act (VEA) of 1963 increased both the state funding for the program as well as the courses offered (The Vocational Education Act of 1963, 1965). The goal of VEA was to increase the population of students enrolled in agricultural education while also teaching those students that there is more to agriculture than farming. Students were introduced to areas such as agribusiness,

horticulture, natural resources, etc. The VEA Act of 1963 also provided additional funding for the creation work study programs, training centers, and aiding students with physical disabilities (TVEA of 1963, 1965).

Starting in the 1970s and continuing on into the 1980s, students with disabilities were being moved from private learning environments and into contained special education classrooms at local public schools (Nolan, 2004). This movement was in relation to the passing of the Education for All Handicapped Children Act (EHA) of 1975, P.L. 94-142, or more commonly known today as the Individuals with Disabilities Education Act (IDEA). This law required "states and localities assist in providing for the education of all children with disabilities and assess and assure the effectiveness of efforts to educate children with disabilities" (Dormody et al., 2006, p.94). Federal funding was provided to the schools to aid in meeting the needs of the students with disabilities while preparing them for a functioning future. EHA began the implementation of Individualized Education Programs (IEP) and allowing students to be taught in Least Restrictive Environments (LRE).

Amendments were made in 1986 as well as 1990 to the EHA. 1986, P.L. 99-457, brought the addition of establishing model programs and implementing best practices for success with transitional services of students with disabilities (Harvey, 2001). The amendments made in 1990, P.L. 101-476, also related to transitional services for students with disabilities. The mandate required a list of activities and goals be written for each student, sixteen years and up, in their transitional service plan (Harvey, 2001). The goal of the transitional service plan is to help the student think ahead about their future and create a smooth transition from the school setting to potentially college, the workforce, or future living situations. Prior to the 1990 amendments, students with disabilities were formerly called "handicapped students," the terminology was

changed to “students with disabilities” during this time (Individuals with Disabilities Education Act, 2003). The 1990 amendment also added additional categories to the list of recognized disabilities, autism and traumatic brain injuries.

1997 saw a third amendment made, P.L. 105-17. The 1997 IDEA amendments increased protection for both the student and parents involved, provided mediation, increased flexible funding, and the requirement of students with disabilities to participate in state or local assessments (Nolan, 2004). The addition of general education teachers to the IEP team along with providing more professional development was done to increase teacher knowledge of working with students with disabilities. Buell et al. (1999) also notes the addition of general educators to the state’s Personal Development Committee with the hopes of increasing pre-service and in-service education in the area of special needs.

The final amendment made to IDEA was made in 2004, P.L. 108-446, or now known as Individuals with Disabilities Education Improvement Act of 2004. “The IDEIA mandates a free and appropriate public education (FAPE) in the Least Restrictive Environment (LRE) for all students with disabilities with emphasis placed on the provision of instruction with nondisabled peers to the greatest extent possible” (Harrison et al., 2018, p.2). An official list of thirteen categories of disabilities was developed to aid in providing students with disabilities IEP accommodations and modifications. There was an increased focus on improving reading skills, early intervention, and research-based instruction for special education teachers (IDEA Part B, 2020). Other additions to P.L. 108-446 were based on the recent passing of the No Child Left Behind Act of 2001.

In 2001, the No Child Left Behind Act (NCLB) was passed building upon the previous laws, the Elementary and Secondary Education Act of 1965 and the Improving America’s

Schools Act of 1994 (Gaona, 2004). The goal of NCLB was to back standard-based education, creating measurable goals and increasing positive educational outcomes (Gaona, 2004). NCLB was eventually replaced by the Every Student Succeeds Act (ESSA) in 2015. ESSA ensured that schools set high standards, maintain accountability, provide interventions, encourage assessments, ensure access to quality education for students, and secure new resources (Sharp, 2016). The funding for ESSA allowed for more flexibility with curriculum and providing opportunities for students with disabilities, minorities, and those in poverty (Sharp, 2016).

Another highly influential law for agricultural education and the inclusion of students with disabilities are the Carl D. Perkins Vocational and Technical Education Acts. Over the course of 22 years, 4 versions of the Carl D. Perkins Vocational and Technical Education Acts were passed, Perkins I, Perkins II, Perkins III, and Perkins IV. Perkins I, P.L. 98-524, passed in 1984. Each of the rewrites developed higher levels of inclusion of students with disabilities into the Career and Technical Education classes (Congressional Research Service, 2016). The purpose of Perkins I was to ensure that special populations had equal access to vocational education programs. Grant funds were set aside for each state and were to be used in supporting the inclusion of these students. Six years later, Perkins II, P.L. 101-392, or the Carl D. Perkins Vocational and Applied Technology Education Act Amendments, eliminated the funding set aside from Perkins I to be used for special populations (Harvey, 2001). Perkins II provided states with more flexibility in how they were able to use their funds for the vocational classroom. The addition of Tech Prep programs is the most notable amendment made with Perkins II, increasing the student's opportunity for preparation to enter college or the workforce upon graduation. Perkins III, P.L. 105-332, passed a new set of amendments in 1998. Perkins III "established guidelines to increase state accountability to make certain of equal access for special

populations" (Harvey, 2001). The final rewrite of the Perkins Acts, Perkins IV, P.L. 109-270, passed in 2006. "Perkins IV aims to improve academic outcomes and preparedness for higher education or the labor market among students enrolled in career and technical education" (Congressional Research Service, 2016, p.1). Terminology changes made through Perkins IV was the change of "vocational education programs" to "career and technical education" CTE.

Individualized Education Programs

In the state of Georgia during the 2020-2021 school year, there was 213,272 students being served by an Individualized Education Program (IEP) (IDEA Part B, 2020). An IEP is a legal document written for each individual student with a disability. After the development of this document, it is annually reviewed and revised as a result of GA Code, Rule 160-4-7-.06. Each IEP must include the following:

1. "a statement of the child's present levels of academic achievement and functional performance,
2. A statement of measurable annual goals, including academic and functional goals,
3. For children with disabilities who take alternate assessments aligned to alternate achievement standards, a description of benchmarks or short-term objectives,
4. A description of
    a. How the child's progress toward meeting the annual goals will be measured
    b. When periodic reports on the progress the child is making toward meeting the annual goals
5. A statement of the special education and related services and supplementary aids and serviced, based on peer reviews research to the extent practicable, and a statement of the

program modifications or supports for school personnel that will be provided to enable the child,

6. An explanation of the extent, if any, to which the child will not participate with nondisabled children in the regular class and in the nonacademic and extracurricular activities,
7. A statement of any individual appropriate accommodations that are necessary to measure the academic achievement and functional performance of the child on state and district wide assessments,
8. The projected date for the beginning of the services and program modifications and the anticipated frequency, location, and duration of those services and program modifications" (Individualized Education Program, 2007, p. 1-2).

In addition to these requirements, once a student with a disability enters the ninth grade or turns 16 years old, a transition service plan must be created. The transition service plan develops measurable post-secondary goals related to the student's future "training, education, employment, and living skills" (IEP, 2007, p.2). This plan will also include any services that the student may need in order to reach the determined goals.

The IEP is created by a team of individuals who work directly with the student. This team will come together one to two times a year, more if needed, to develop, or review and revise the IEP document. The team consist of the following participants: the parent(s) of the child, a minimum of one of the student's regular education teachers, a minimum of one of the student's special education teachers, a representative of a local educational agency or board of education, a participant who can interpret evaluation results, and optional to the parent or LEA, any other individuals who know have knowledge in the area of special education (IEP, 2007). The student

is encouraged to attend the meeting when appropriate. In terms of agricultural education, the agriculture teacher is considered to be a regular education teacher and is expected to participate in the entire IEP process.

To access a student's IEP, they can be found online at any time through the Georgia Department of Education's program Georgia Online IEP (GO-IEP). Eighty-two percent of the counties in Georgia currently use GO-IEP. This program is integrated into the school's Student Information System (SIS). All of the student's regular education and special education teachers, as well as any other service provided, have access to the students' IEP. Online the teacher or provider may find their responsibilities for implementation of supports, accommodations, modifications, and any other supports.

One support may be the inclusion of a student in the least restrictive environment. The least restrictive environment is the inclusion of students with disabilities in a regular classroom education setting, including students without disabilities (Francisco et al., 2020). Sixty-two point forty-one percentof students served by an IEP are inside the regular classroom 80% or more of the day. These students are further assisted through modifications and accommodations. A modification "is a change to what is being taught to or expected from the student" (Hamilton & Kessler, n.d., p.1). Modifications can be seen through changing the grading system to pass or fail rather than assigning a letter grade, reducing the amount of questions/work, or creating an alternate assignment (Hamilton & Kessler, n.d.). Accommodations can change how the student works through the curriculum. Accommodations change the physical environment. Common accommodations used in the classroom are preferential seating, oral exams, extended times, etc.

Each IEP is based on the student's individualized needs and categorized area of disability. These categories serve as a guide to determine what areas of support may be needed and what

should be evaluated to determine the best approach for helping the student. Based on this information, the IEP team can develop the appropriate goals and support for the student's success.

Eligibility Categories Recognized in Georgia

Students served by Individualized Education Programs (IEPs) in the state of Georgia must be categorized by one or more of the thirteen recognized eligibility categories of disability. The thirteen categories are autism, deaf-blindness, deafness, emotional disorder, intellectual disability, orthopedic impairment, other health impairment, significant developmental delay, specific learning disability, language impairment, traumatic brain injury, visual impairment, or multiple disabilities.

Table 1

Population of school aged students with disabilities in Georgia during the 2020-2021 school year.

Disability Category	***N***	**%**
Autism	23,749	11.14%
Deaf-Blindness	31	.01%
Deafness	1,679	.79%
Emotional and Behavioral Disorder	9,731	4.56%
Intellectual Disability	16,123	7.56%
Orthopedic Impairment	686	.32%
Other Health Impairment	35,354	16.58%
Significant Developmental Delay	21,059	9.85%
Specific Learning Disability	77,701	36.43%
Language Impairment	26,060	12.22%
Traumatic Brain Injury	381	.18%
Visual Impairment	718	.34%
Multiple Disabilities	Not available	Not available

Note. $N = 213{,}272$.

Each of these disabilities has their own set of challenges when it comes to inclusion in the general or agriculture classroom setting. The four challenges that this study focuses on are learning, behavioral, sensory, and physical challenges.

Autism is a developmental disability. It affects a student's verbal and nonverbal ability to communicate which leads to difficulty with social interactions (Nichcy, 2012) Characteristics of autism tend to become evident before the age of 3. A few common characteristics of a child with autism are resistance to environmental changes or their daily routine, repetitive activities, and unusual responses to sensory experiences (Nichcy, 2012). Although these are common characteristics, they vary widely from child to child. To test for eligibility, the following areas are examined for each child, developmental rates, social interactions, communication, sensory processing, and repertoire of interests (Georgia Department of Education, 2023).

Deafness refers to a hearing impairment that affects a child's learning ability. Usually the impairment is "so severe that a child is impaired in processing linguistic information through hearing with or without amplification" (Nichcy, 2012, p.3). Eligibility testing relies on audiological, otological, and educational evaluations, along with a psychological exam (GDOE, 2023b). For a student that is considered deaf, "consider the child's language and communication needs, opportunities for direct communication with peers and professional personnel in the child's language and communication mode, academic level, and full range of needs, including opportunities for direct instruction in the child's language and communication mode" (IEP, 2007, p.7).

Visual impairment, or blindness, is the inability for a child to properly use their eyes. "Even with correction, it adversely affects a child's educational performance" (Nichcy, 2012, p.4). Eligibility testing includes a current eye exam report, low vision evaluation, and comprehensive educational evaluation (GDOE, 2023). It is recommended to "provide for instruction in Braille and the use of Braille unless the IEP team determines, after an evaluation of

the child's reading and writing media, that instruction or the use of braille is not appropriate for the child" (IEP, 2007, p.7).

A category separated from multiple disabilities but is a combination of both deafness and visual impairment is deaf-blindness. Deaf-blindness is a simultaneous combination of both hearing and visual impairments (Nichcy, 2012). This category of disability causes severe communication and other developmental and educational needs. Many times, these needs "cannot be accommodated in special education programs solely for children with deafness or children with blindness" (Nichcy, 2012, p.3). To determine eligibility, the student must have both current optometric and ophthalmological examinations.

An emotional and behavioral disorder (EBD) is characterized by the "inability to learn which cannot be adequately explained by intellectual, sensory, or health factors" (GDJJSD, 2021, p. 37). A student with EBD may exhibit one or more of the following, inability to maintain relationships, consistent inappropriate behavior, pervasive mood changes, or adverse physical reactions to certain people or situations (GDOE, 2023). For a student to be classified as EBD the following evaluations must take place, results of intervention, psychological and education evaluations, behavioral reports, social history, and adequate documentation of the characteristics of EBD (GDOE, 2023b). According to Ogundele (2018), there are two categories of emotional and behavioral disorders, external and internal. External behaviors are those in which the student shows signs of aggression, uncooperativeness, or even cruelty (Ogundele, 2018). Internal behaviors are those such as anxiety, depression, becoming withdrawn (Ogundele, 2018).

An intellectual disability refers to a subaverage intellectual functioning. This can be defined as an IQ measurement of 70 or below (GDJJSD, 2021). Students with intellectual disabilities have limitations not only with intellectual functioning but also with adaptive behavior

(Tenerife, 2022). “Adaptive behaviors refer to social, practical, and conceptual skills that happen in natural environment” (Tenerife, 2022, p. 774). This can range from learning proper communication, the ability to problem solve, establish relationships, etc. There are four categories of intellectual disabilities, mild, moderate, severe, and profound. These categories are primarily based on the student’s IQ range from mild starting at 70 and severe having a lower limit of 25 (GDOE, 2023). Eligibility is determined by a comprehensive exam of the students IQ and adaptive behavior.

An impairment caused by a congenital anomaly, disease, or other causes such as burns, fractures, amputations, etc. is considered an orthopedic impairment (NICHCY, 2012). Orthopedic impairments usually are a physical difference in the student that influences the way they learn. Evaluation for eligibility includes a current medical evaluation, comprehensive educational assessment, all of which must show a deficit in the students learning ability due to the impairment (GDOE, 2023).

Other health impairments refer to the student “having limited strength, vitality or alertness including a heightened alertness to environmental stimuli, that results in limited alertness with respect to the educational enrichment” (GDJJSD, 2021, p. 45). To be classified as having other health impairments, there must be documentation of a comprehensive developmental or educational assessment. Students with other health impairments may have one or more of the following health problems: attention deficit disorder or attention deficient hyperactivity disorder, asthma, epilepsy, diabetes, hemophilia, a heart condition, leukemia, lead poisoning, rheumatic fever, nephritis, Tourette, or sickle cell anemia (GDJJSD, 2021).

A significant developmental delay is when a student is unable to perform an age-appropriate skill. This is a result from “a delay in a child’s development in adaptive behavior,

cognition, communication, motor development or emotional development" (GDOE, 2023b, p.18). Assessment of the child's five skill areas is needed to determine eligibility.

Specific learning disabilities refer to when there is a disorder of the basic psychological processes. This can lead to issues with language and communication. More specifically, an inability to "listen, think, speak, read, write, spell, or do mathematical calculations" (U.S. Department of Education, 2023, p. 20). Students with a specific learning disability do not perform and meet the state approved grade level standard (GDJJSD, 2021). A psychological processing examination, data-based progress monitoring, and academic performance observation must be made to determine eligibility.

Students who are classified as having speech language impairment show signs of impaired articulation, a voice impairment, and can stutter when speaking (Nichcy, 2012). These students can demonstrate one or all the characteristics of a speech language impairment. This category can also be further divided into four specific impairments which again can be shown singularly or in multiples, speech sound production impairment, language impairment, fluency impairment, and voice/resonance impairment (GDOE, 2023). For edibility in this category, a comprehensive examination performed by a speech-language pathologist must be performed and documented (GDOE, 2023b).

A traumatic brain injury is caused by an injury from external physical force. These types of injuries tend to result in total or partial injury to the brain resulting in a functional disability and/or psychosocial impairments (GDJJSD, 2021). These impairments affect areas "such as cognition, language, memory, attention, reasoning, abstract thinking, judgement, problem solving, sensory, perceptual and motor abilities, and speech and information processing."

(GDJJSD, 2021, p.62). Eligibility includes evaluation of both pre and post injury functioning status and documentation of the TBI.

Finally, multiple disabilities are a combination of the previously described categories that result in severe educational needs. This category does not include those who are deaf-blind as described above. Eligibility is determined the same as each listed above, based on category.

Each category of disability has various associated challenges such as learning, behavioral, sensory, and/or physical challenges. A learning challenge is the inability to function at an age-appropriate level in the areas of language, math, spelling, and reading (Talbert et al., 2022). In many cases, students will display a learning disability in one area and perform at an average level or higher in other areas. A few common IEP supports used for students with learning challenges include, extended time, read aloud, breaking down tasks, etc. When working with students with disabilities, learning challenges, or other various challenges, beyond the recommended IEP supports, it is required that teachers observe the students throughout the lesson to monitor performance and pick up on the student's que's for needed assistance (IDEA Part B, 2021).

The second common challenge seen with students with disabilities is behavioral. "These students have an inability to learn based on a psychological problem" (Repps & Dormody, 1993, p. 20). These behavioral and emotional struggles can be displayed externally, or the student may have internal troubles. External characteristics can be seen through outburst, physical altercations, etc. Students with external characteristics can benefit from being allowed to make interest-based choices in the classroom, allowing them to vocalize their interests and thoughts in an educational manner versus negative outburst from feeling restricted (Harrison et al., 2013). IEP supports for external behavioral challenges are to "consider the use of positive behavioral

interventions and supports and other strategies to address that behavior in the IEP or behavioral intervention plan" (IEP, 2007, p. 7). Students with internal emotional struggles may deal with anxiety, depression, etc. These students benefit from teachers who respect their feelings without judgment. IEP supports for internal challenges are preferential seating, frequent breaks, etc. Internal emotional challenges can lead to external behavioral challenges.

Sensory challenges are based on eight senses, visual, auditory, olfactory, oral, tactile, vestibular, proprioceptive, and enteroception (Forman, 2019). To have a sensory challenge, the student has a higher level of awareness of their surroundings which can have adverse results. Some difficulties that result from sensory challenges can be "staying on and completing tasks, making transitions between tasks, interacting with others, following directions, producing work consistently, and organizing multi-step tasks" (GDJJSD, 2021, p. 45). Support for the student is based on the type of sensory challenge, one of the eight senses. Common IEP supports used for sensory challenges include preferential seating, movement breaks, decreased visuals, hand fidgets, just to name a few.

The last challenge, physical challenges, can include students with "hearing or vision defects, limited use or complete absence of arms or legs, problems with bodily functions, speech or communication disorders, or combination thereof" (Repps & Dormody, 1993, p. 20). IEP support for students with physical challenges can include printed notes, a scribe, preferential seating, or extended time. Although it is not commonly discussed when addressing needs of students with physical challenges, studies show that many times these students also struggle with socialization skills, much like students with behavioral, sensory, or learning challenges (Kwan et al., 2020).

Inclusion in the General Education Classroom

The purpose of education has remained the same over centuries, to aid students in unlocking their full potential and "the application of rational methods to problems old and new" (*The Central Purpose of American Education,* 1961, p. 21). In public schools today, education is provided in four areas, general education, foreign languages, fine arts, and career and technical education courses. General education courses consist of reading/writing, mathematics, science, and social studies, which are required in order to graduate. These courses are vital to the success of the student not only in their other classes but in their future outside of the classroom. They teach the foundational knowledge and skills needed in college or careers upon graduation (Sabbott, 2013). This is one of the many reasons why it is important to provide full inclusion opportunities for students with disabilities.

Full inclusion refers to "the practice of educating all children in age-appropriate general education settings with needed supports and services and instruction focused on the general education curriculum regardless of any challenges" (Harrison et al., 2018, p. 1; Alqurairi & Gut, 2012; Bui et al., 2010). Successful inclusion relies on collaboration from both general educators and special education educators, working together to determine what is best for the students based on their Individualized Education Program. Inclusion requires teachers to teach students with disabilities their general curriculum while offering increased assistance. Students with disabilities require different levels of assistance when learning new skills and knowledge in the classroom. The different levels of need are known as variability. "Variability in the classroom provides opportunities for students with special needs to be involved in hands-on, enriching course content" (Teixeira & Edwards, 2020, p. 85). Providing learning opportunities that work

best for each student comes in the form of accommodations and modifications. These are considered IEP supports that aid in full inclusion of the student in general education classrooms.

Best practices used when teaching students with disabilities in the classroom vary from student to student. It is best to get to know each student individually, access their IEP, as well as communicate with the IEP team to determine what strategies to use when teaching these students. The process of curriculum development also takes place when determining the best practice to use when working with students with disabilities. "Curriculum development is a planned, thoughtful and deliberate course of actions that ultimately enhance the quality and impact of the learning experience for students" (*Curriculum Development,* 2012, para. 2). There are a few practices that research has shown to be highly beneficial to the student. According to Wilson (2013), providing "alternatives to traditional written tasks" allows the student to play upon their learning strengths. Other notable best practices found in research that will be used for this study include, breaking down instructions, managing the classroom environment, positive reinforcement, additional time, positive environment, modify work, emphasize hands-on, alternative rubrics, shortening assignments, and providing oral examination. None of these management practices can be successful without the collaboration between general education teachers and the special education department. (Fancisco et al., 2020)

Inclusion provides benefits to not only the student with disabilities but also to their peers and community/society. The inclusion of students with disabilities provides them with not only new education opportunities but also the ability to interact with others and develop socially acceptable behaviors and skills (Repps & Dormody, 1993). Prior to inclusion, students with disabilities were in classrooms with other students that had disabilities. While there was opportunity for learning and social interactions, many times the other students struggled with

social encounters as well. By including students with disabilities, they can learn from their regular education peers in the areas of social skills and how to perform a skill. Students at times learn better from working with their peers rather than solely from the teacher. During these experiences, regular education students are also benefiting from the interactions with students with disabilities. “It teaches them that they do not live in a homogeneous world, but in a world made up of many races, religions, nationalities, sexes, lifestyles, and levels of abilities and disabilities – an important lesson for all to learn” (Repps & Dormody, 1993, p. 21).

During the school year 2020-2021, 62.41% of students who are served by Individualized Education Programs in the state of Georgia are served inside the regular general education classroom for 80% or more of the day. (Special Education Annual Report, 2021) An additional 17.17% of students served by Individualized Education Programs in the state of Georgia are served inside the regular general education classroom for less than 40% of the day (SEAR, 2021). These inclusion rates have remained constant for the past five years and are projected to increase. Although these rates have remained high and will increase in the future, a study conducted by Buell et al. found that many teachers lack confidence in writing and participating in Individualized Education Programs (IEPs), managing behaviors, adapting materials or curriculum, and giving individual assistance to students with disabilities (1999). This lack of confidence could be due to lack of preservice training, in-service training, or lack of experience. General educators have identified several areas of need in terms of training. The areas of needed improvement are “program modification, assessing academic progress, adapting curriculum, managing student behavior, developing IEPs, and using assistive technology” (Buell et al.,1999, p. 153). If these areas of need are not being met during the educator's preservice program, in-

service training, or professional development, needs to be offered to successfully include students with disabilities in their general education courses (Buell et al., 1999).

Inclusion in the Agricultural Education Classroom

According to Harvey (2001), students with disabilities are more likely to enter the workforce rather than enter college. This has led to an increased need for teaching students with disabilities work-ready skills that can be learned through career and technical education courses. These courses allow students to "gain a practical, hands-on education that will help them to become more successful upon entering the workforce" (Stair & Moore, 2010, p.53). Through agricultural education, learning expands far past the in-class lessons and into the student's experiences with FFA and SAEs. Both SAE and FFA provide students with disabilities immeasurable benefits such as work-ready skills, improved cognitive abilities, or even aids in reducing stress. (Johnson et al., 2012) Teixeira and Edwards (2020) "found that 87% of teachers thought SAEs helped special education students with career plans and goals" (p.85).

Although there are documented benefits of students with disabilities being placed in agricultural education, many teachers struggle with inclusion. According to Dormody et al. (2006), past research has shown that overall, agriculture teachers have a lower self-perception in their ability to work with students with disabilities. While they may have low perceived ability, the level of importance when teaching students with disabilities was high (Dormody et al., 2006). Dormody (2006) continues that a study conducted in New Mexico by Cummings (2003) found that during pre-service training and education, many teachers had received little to no formal training to work with students with disabilities. An additional study conducted by Dormody (2006) in Pennsylvania asked teachers to rank themselves from highest to lowest level of competency when working with students with disabilities. The five competencies that teachers

identified as having the lowest level of competency in were “completing individual vocational plans, being familiar with the laws that apply to special needs students, completing individualized education plans, assisting students in viewing his/her assets and limitations realistically, and integrating and actively involving special needs students into vocational organizations” (p.10). Stair et al. (2010) conducted a similar study ranking confidence levels of working with students with disabilities. The two statements with the highest level of teacher confidence were, providing a positive classroom atmosphere and capability of following legislation requirements (Stair et al., 2010). The two statements with the lowest level of teacher confidence were, receiving adequate in-service training for working with students with disabilities and their preservice training prepared them for working with students with disabilities (Stair et al., 2010). It is vital for the agriculture teachers to be fully involved in the individualized education program process in order to help the student with disabilities to succeed. Full involvement with the IEP team can lead to higher levels of competency and confidence.

Currently there is limited amounts of research that exists discussing the proper modifications and best practices to use when working with students with disabilities in the agriculture classroom (Easterly & Meyers, 2011). Stair et al. (2010), asked teachers to identify which strategies they found to be the most effective when working with students with disabilities in the agriculture classroom. The top two most effective strategies identified were emphasizing hands-on activities and spending more time with the student one-on-one during these activities (Stair et al., 2010). The least two effective strategies were tutoring students after school and creating an alternative rubric for an assignment (Stair et al., 2010).

With an increasing trend in students with disabilities being placed in agricultural education classes, teachers need further help with the inclusion of these students in their programs. For those agriculture teachers who are currently teaching, Giffing et al. (2010) recommends that agriculture teachers "need specific professional development to address the needs of students with disabilities and to fully involve those students in the ag ed model" Dormody et al. (2006) recommends that further research be done to determine why there is a lower percentage of students with disabilities being placed in Supervised Agricultural Experiences. One of agricultural educator's main goals should be to continually strive to increase student involvement in FFA and SAEs, striving for diversity and inclusion.

Teacher Self Efficacy

In 1977, Andrew Bandura developed what is known as the self-efficacy theory. Self-efficacy is "beliefs in one's capabilities to organize and execute the courses of action required to produce given attainment" (Bandura, 1997, p. 3). This theory relies on both attitudes and behaviors to have a positive self-efficacy outcome. "A person must not only believe that certain strategies or behaviors are effective, but they must also be confident in their own ability to perform those strategies" (Stair et al., 2010, p. 91). The teacher's belief in their own ability can be affected by their working conditions and environment. According to Atkinson (2020), the level of self-efficacy can change depending on "the schools, community, available resources, student population, and administrative leadership" (p. 20-21).

There are two dimensions to the self-efficacy theory, self-efficacy and outcome expectancy (Stair et al., 2010). As previously mentioned, self-efficacy is one's belief in one's own ability to perform a task successfully. The second dimension, outcome expectancy, "is the person's evaluation of the likely consequences of doing that task at the predicted level of

competence" (Atkinson, 2020, p. 18; Bandura, 1995). The expected outcome for agriculture teachers when working with students with disabilities is the student gaining life-ready and work-ready skills, giving them the opportunity to be working and contributing members of our community. If a teacher has low self-efficacy, it can almost be guaranteed that the outcome expectancy will not be met.

There is evidence of teacher self-efficacy correlating with the amount of experience a teacher has had in said area." The ability to successfully instruct students in any setting requires more than training, it requires that teachers feel empowered to apply new skills and competencies" (Buell et al., 1999, p. 145). This empowerment can be identified as positive self-efficacy, a positive attitude. According to Giffing et al. (2010), a positive attitude when working with students with disabilities is one of the most valuable elements. A positive self-efficacy when teaching students with disabilities is vital. "Research has suggested that teacher's perceptions and attitudes toward inclusion affect the successful implementation of inclusive education" (Giffing et al., 2010, p. 103). Teacher self-efficacy with inclusion can depend upon preservice training, the amount of experience they have had in inclusion, any professional development taken in inclusion, whether the experiences and classes taken were a positive or negative experience, and the area of inclusion at the time. "A teacher may feel very competent in one area of study or when working with one kind of student and feel less able in other subjects with different students" (Atkinson, 2020, p. 19). For an agriculture teacher, this could relate to the three-ring model of classroom instruction, FFA, and Supervised Agricultural Experiences.

Much of the inclusion training that agricultural education teachers receive, preservice or in-service, is based on classroom instruction, not inclusion in FFA and SAEs. Agriculture teachers in Ohio identified that "the domain of SAE held the greatest discrepancy between its

importance and the teacher's self-efficacy in that area. Many teachers believe SAE to be important, but their skills remain deficient" (Atkinson, 2020, p. 15). The results of this study can aid in future training for in-service and preservice teachers in the specified areas of need for SAEs with a goal of increasing the teacher's self-efficacy. Buell et al. (1999), notes that in order to successfully instruct students, the teacher must rely on more than training, and feel comfortable and positive about the situation. "Agricultural educators will be more likely to incorporate students with special needs in the FFA and SAE, if they have positive attitudes towards working with these students... and they perceive that working with students with special needs is not impossibly difficult" (Johnson et al., 2012, p.43).

CHAPTER 3: METHODOLOGY

Introduction

The purpose of this study was to examine the perceived level of importance and competence of Georgia's SBAE teachers when working with Students with Disabilities in the classroom and Supervised Agricultural Experiences (SAEs). The perceptions examined for level of importance and competence are utilizing Individual Education Programs (IEPs), best practices, and learning challenges associated with Individualized Education Programs (IEPs). The following objectives were used to direct the study:

1. Report the personal characteristics of school-based agricultural education teachers in Georgia.
2. Determine the level of importance and competence of utilizing Individualized Education Programs (IEPs) as perceived by school-based agricultural education teachers in Georgia.
3. Determine the perceived importance and competency of school-based agricultural education teachers in Georgia when implementing best management practices to include students with disabilities in the classroom and Supervised Agricultural Experiences (SAEs).
4. Determine the perceived importance and competency of school-based agricultural education teachers in Georgia when including students with disabilities in the agriculture classroom and Supervised Agricultural Experiences (SAEs) based on learning challenges associated with their Individualized Education Program (IEP).
5. Identify changes in the inclusion of students with disabilities in the agricultural education classroom as observed by school-based agriculture education teachers in Georgia.

6. Determine the population of students with disabilities in the agriculture classroom participating in Supervised Agricultural Experiences (SAEs).

This chapter will discuss the research design, population sampled, the instrumentation used, collection of data, and data analysis of the study.

Research Approach/Design

This post-positivist quantitative study used a descriptive correlational research design (Creswell, 2014). Creswell (2014) defines the purpose of descriptive correlational research is to describe the relationship among variables and to determine the connections between them. One type of descriptive research is the use of a sample survey. Descriptive correlational research methods were used to collect data from Georgia SBAE Teachers on their perceived level of importance and competence when advising Students with Disabilities in the agriculture classroom and in Supervised Agricultural Experiences (SAEs). Descriptive correlational research was the selected design for this study because it "provides a quantitative or numeric description of trends, attitudes, or opinions of a population by studying a sample of that population" (Creswell, 2014, p. 13).

Population and Sample

The population examined in this study was Georgia High School Agriculture Teachers employed during the 2022-2023 school year. The sample used was derived from the 2022-2023 Georgia Agricultural Education Directory with assistance of the Agricultural Education Program Director. In a combined effort from Georgia Agricultural Education's State and Regional Staff as well as Georgia Agricultural Education's Curriculum and Technology Director, the Georgia Agricultural Education Directory is updated annually or as needed throughout the year and is assumed to be inclusive of all SBAE teachers in Georgia.

Georgia agricultural education is divided into six areas throughout the state. These areas are placed into either north, central, or south region based on location. Each region has a regional office with one director, four area teachers, and one administrative assistant that manages two areas (i.e., the south region has area 5 & 6). The regional offices work together to stay up to date on the state directory. Middle school agriculture teachers were not included in the population of this study due to student work restrictions which lessons the potential for SAE participation. SBAE teachers in the state of Georgia are required to have at least sixty percent of their students placed in a supervised agricultural experience per their Program of Work.

Non-probability sampling techniques were used to determine the participants of this study. Non-probability sampling allows the researcher to select their sample based on their judgement rather than randomly selecting participants (Creswell, 2014). There are four types of non-probability sampling, convenience, quota, snowball, and purposive random sampling (Creswell, 2014). The most appropriate non-probability sampling technique for this study was purposive sampling. The sample size was determined using the Krejcie and Morgan (1970) sample size calculator. The total population of SBAE teachers in Georgia is 407, according to Krejcie and Morgan (1970), the sample size for this study should be 198. From a population of 407, using strata of region, a proportional sample was obtained of 43.

Instrumentation and Data Collection

The instrument created for this study was derived from meta-analysis of prior studies addressing special education. The instrument employed was a questionnaire administered online via the web-based software Qualtrics. Using an electronic survey-based instrument allows for a large number of responses in a short amount of time (Dillman et al., 2014). Every high school agriculture teacher in the state of Georgia has a school-issued email address which adds to the

ease of distributing the instrument. Dillman's Tailored Design Method was used to increase response rate (2014).

There were 65 questions and statements separated into six sections:

1. Individualized Education Programs (IEPs)
2. Best management practices for the agriculture classroom and Supervised Agricultural Experiences
3. Implementing teaching strategies based on learning challenges
4. Changes in the IEP population
5. Current IEP population
6. Personal characteristics

The questions were categorized into sections in order to determine the educator's perception of Individualized Education Programs alone before introducing the use of IEPs in the various components of the agriculture classroom. Comparisons were made on the teacher's perception of inclusion in the agriculture classroom and advising those in Supervised Agricultural Experiences.

A Borich Model was used to determine the educator's perceived level of importance as well as level of competence in the same area for sections 1 through 3. "The Borich Model was designed to determine for which competencies training is needed for a target audience" (Caillouet & Harder, 2022, p. 1). For this study our target audience was Georgia SBAE teachers. Using the Borich Model allows the researcher to determine what competencies need accessing, allow participants to complete a self-assessment, rank the training needs of the target audience, evaluate current programs, and develop changes to meet the needs found in the assessment (Caillouet & Harder, 2022). The interval scale measurements used to determine the participants level of agreement for each statement were: 1) very important/very competent, 2)

important/competent, 3) somewhat important/somewhat competent, 4) of little importance/little competence, and 5) not important/not competent. When analyzing the data from the Borich Model, the researcher will be able to see what items were ranked as very important to least important to the teacher. By ranking their competencies, the researcher can then determine the areas of need for teachers in agriculture education. The research was reviewed and approved by Auburn University's Office of Human Research.

Surveys were distributed from January to March 2023. It took participants roughly ten minutes to complete the survey. Following Dillman's Tailored Design Method (2014), each teacher received an email that included information about the study, a link to the information letter, as well as a link to the questionnaire they were asked to participate in. After the initial email was sent, a weekly reminder was sent to teachers who had not yet completed the survey. All responses collected through Qualtrics remained anonymous and were coded upon analysis.

Validity:

In an effort to minimize errors, content and face validity were examined. The purpose of testing validity is to determine if the instrument measures what it purports to (Ary et al., 2019). Content validity examines how well the instrument represents the construct it intends to (Ary et al., 2019). This was completed by cross-referencing similar studies, current resources in education for Individualized Education Programs and utilizing a panel of experts in both agricultural education ($N = 3$) and special education ($N = 1$). Face validity gauges the overall appearance of the instrument and ensures the appropriate variables are measured (Creswell, 2014). Faculty at Auburn University in both SBAE and Special Education served as a committee of experts to review the instrument and provide feedback to ensure validity. Changes were made to the wording of the instrument and formatting in Qualtrics based on these experts.

A pilot study was conducted prior to the final distribution *(N* = 21). The goal when conducting a pilot study is to allow the researchers to minimize measurement error and nonresponse in an effort to maximize future responses (Dillman et al., 2014). Areas examined in the pilot study were response rate, appropriateness of statements and questions based on objectives, use of Qualtrics, and pattern response. Twenty-one Georgia High School Agriculture Educators were selected to participate in the Pilot Study, 7 from North Region, 7 from Central Region, and 7 from South Region. The participants were randomly selected from the population and were not used in the final findings for the study. Pilot participants did not offer any suggestions to improve syntax or readability.

The pilot study was also used to test internal instrument reliability. This refers to the degree to which the instrument will consistently measure something from one test to another. The pilot study used Cronbach's Alpha (α) to determine the reliability of the study. "Cronbach Alpha's test is usually applied to test the consistency and stability of the questionnaires which measure latent variables" (Bujang et al., 2018, p. 86). According to Bujang et al., Cronbach's Alpha is appropriate for determining reliability due to the examination of consistency among ratings to reduce error in the future use in the study (2018). The results for each section showed high reliability. The minimum threshold for Cronbach's Alpha to maintain reliability is .70 (Ross, 2010).

Table 2

Reliability of pilot test

Instrument Subsection	Descriptor	α
1	Importance of using Individualized Education Programs (IEPs)	.91
1	Competence of using Individualized Education Programs (IEPs)	.95
2.A.	Importance of best practices in the classroom	.90
2.A.	Competence of best practices in the classroom	.91

2.B.	Importance of best practices advising Supervised Agricultural Experiences (SAEs)	.86
2.B.	Competence of best practices advising Supervised Agricultural Experiences	.95
3.A.	Importance of implementing strategies based on learning challenges	.91
3.A.	Competence of implementing strategies based on learning challenges	.95
3.B.	Importance of developing instruction based on learning challenges	.92
3.B.	Competence of developing instruction based on learning challenges	.96
3.C.	Importance of advising students in Supervised Agricultural Experiences based on learning challenges	.93
3.C.	Competence of advising students in Supervised Agricultural Experiences based on learning challenges	.97

Nonresponse error refers to the "type of error exists to the extent that people included in the sample fail to provide usable responses and are different than those who do on the characteristics of interest in the study" (Lindner et al., 2001, p. 44). Nonresponse error could potentially lead to limited internal validity. Each participant was provided with an understanding of the study and received weekly follow-up requests for participation. In addition, mathematical calculations were used to check for nonresponse error (Lindner et al., 2001).

Data Analysis

Upon completion of the collection period, partially completed surveys were removed from the sample. This resulted in a total of 43 respondents, a 21% response rate which is consistent in SBAE (Doss & Rayfield, 2022). The compiled data for this study was analyzed using SPSS 28. A combination of Mean Weight Discrepancy Scores (MWDS), Multivariate Analysis of Variance (MANOVAs), frequencies, means, standard deviations, percentages, as well as personal characteristics such as years' experience, degree completion, and gender were used to analyze the data. MWDS are used to determine any differences or discrepancies between a teacher's identified levels of competency and importance when using the Borich Needs Assessment Model (Narine & Harder, 2021). This procedure subtracts the importance score from

the competency score. This resulting score is then multiplied by the grand mean of importance for each competency level. This use of grand mean emphasizes the populations perception in the calculation (Narine & Harder, 2021). The MWDS allows researchers to better understand which areas or constructs teacher's need more preservice, Inservice, or professional development training in. A positive discrepancy indicates a need to further train and negative indicated an abundance of training.

A Multivariate Analysis of Variance (MANOVA) was used to compare multiple variables at a time for certain independent variables. Sections one, two, and three were further organized into constructs to better analyze the data. For section one's Borich Scale Needs Assessment, the twenty statements were organized by similarity into constructs of accessing IEPs, understanding IEPs, utilizing IEPs, and utilizing IEP supports. Section two's Borich Scale Needs Assessment was already organized into an A and B section which resulted in their own constructs, best practices in the classroom and best practices advising SAEs. Section three's Borich Scale Needs Assessment was organized into three sections of A, B, and C. These sections were separated based on the task but focused on four IEP associated challenges, learning, behavioral, sensory, and physical. To create uniformity when analyzing the data, these sections were then organized into constructs, developing instruction based on type of challenge, implementation of learning strategies based on type of challenge, advising SAEs based on type of challenge, working with students with learning challenges, working with students with behavioral challenges, working with students with sensory challenges, and working with students with physical challenges. These constructs were used as dependent variables compared to independent variables such as years teaching and highest degree completed.

Table 3

Constructs

Section	Statement	Construct
1	Accessing your caseloads through Georgia Online IEP (GO-IEP) Accessing each individual student's Individualized Education Program on Georgia Online IEP (GO-IEP) Accessing the "Student Supports" section in an Individualized Education Program (IEP) Accessing the student's "Transition Service Plan" section of the Individualized Education Program (IEP)	Accessing IEPs
1	Completely reading a student's Individualized Education Program (IEP) Understanding the definition of the student's primary area of disability Being aware of the laws that apply to students with disabilities Ability to interpret the laws that apply to students with disabilities Define the term "accommodation" in relation to serving students with disabilities Define the term "modification" in relation to serving students with disabilities Define the practice of inclusion in relation to serving students with disabilities Define the term "Least Restrictive Environment" in relation to serving students with disabilities	Understanding IEPs
1	Implementing the student's Individualized Education Program (IEP) supports in the agriculture classroom Using a student's Transition Service Plan when planning a Supervised Agricultural Experience (SAE) Actively participating in a student's Individualized Education Program (IEP) conference Develop curriculum for students with disabilities based on their Individualized Education Program (IEP)	Utilizing IEPs

1	Being aware of the resources on the Georgia Department of Education's Special Education Services and Supports online web page Accessing the Georgia Department of Education's Service and Supports online web page Informing Special Education Teacher's about the progress of the students with disabilities Collaborating with Special Education Teacher's to develop curriculum based on a student's needs	Utilizing IEP Supports
2.A.	Breakdown instructions or tasks for students with disabilities in the agriculture classroom Manage the classroom environment for students with disabilities in the agriculture classroom Provide positive reinforcement for students with disabilities in the agriculture classroom Provide additional time for students with disabilities to complete a task in the agriculture classroom Provide a positive learning atmosphere for students with disabilities in the agriculture classroom Modify testing for students with disabilities in the agriculture classroom Emphasize hands-on learning strategies for students with disabilities in the agriculture classroom Provide an alternative rubric for students with disabilities in the agriculture classroom Shorten assignments for students with disabilities in the agriculture classroom Provide oral examination for students with disabilities in the agriculture classroom	Best Management Practices in the Classroom
	Breakdown instructions or tasks for students with disabilities placed in a Supervised Agricultural Experience (SAE) Manage the classroom environment for students with disabilities placed in a Supervised Agricultural Experience (SAE) Provide positive reinforcement for students with disabilities placed in a Supervised Agricultural Experience (SAE) Provide additional time for students with disabilities placed in a Supervised Agricultural Experience (SAE)	

2.B.	Provide a positive learning atmosphere for students with disabilities placed in a Supervised Agricultural Experience (SAE) Modify the evaluation process for students with disabilities placed in a Supervised Agricultural Experience (SAE) Emphasize hands-on learning strategies for students with disabilities placed in a Supervised Agricultural Experience (SAE) Provide an alternative rubric for students with disabilities placed in a Supervised Agricultural Experience (SAE) Shorten assignments for students with disabilities placed in a Supervised Agricultural Experience (SAE) Provide oral examination for students with disabilities placed in a Supervised Agricultural Experience (SAE)	Best Management Practices advising SAEs
3.A.	Implementing strategies to benefit students served by an Individualized Education Program (IEP) with learning challenges Implementing strategies to benefit students served by an Individualized Education Program (IEP) with behavioral challenges. Implementing strategies to benefit students served by an Individualized Education Program (IEP) with sensory challenges. Implementing strategies to benefit students served by an Individualized Education Program (IEP) with physical challenges.	Implementing learning strategies based on type of challenge
3.B.	Developing instruction for students served by an Individualized Education Program (IEP) with learning challenges Developing instruction for students served by an Individualized Education Program (IEP) with behavioral challenges Developing instruction for students served by an Individualized Education Program (IEP) with sensory challenges Developing instruction for students served by an Individualized Education Program (IEP) with physical challenges	Developing instruction based on type of challenge

3.C.	Advising students served by an Individualized Education Program (IEP) with learning challenges placed in a Supervised Agricultural Experience (SAE) Advising students served by an Individualized Education Program (IEP) with behavioral challenges placed in a Supervised Agricultural Experience (SAE) Advising students served by an Individualized Education Program (IEP) with sensory challenges placed in a Supervised Agricultural Experience (SAE) Advising students served by an Individualized Education Program (IEP) with physical challenges placed in a Supervised Agricultural Experience (SAE)	Advising SAEs based on type of challenge
3.A.B.C.	Implementing strategies to benefit students served by an Individualized Education Program (IEP) with learning challenges Developing instruction for students served by an Individualized Education Program (IEP) with learning challenges Advising students served by an Individualized Education Program (IEP) with learning challenges placed in a Supervised Agricultural Experience (SAE)	Working with students with learning challenges
3.A.B.C.	Implementing strategies to benefit students served by an Individualized Education Program (IEP) with behavioral challenges. Developing instruction for students served by an Individualized Education Program (IEP) with behavioral challenges Advising students served by an Individualized Education Program (IEP) with behavioral challenges placed in a Supervised Agricultural Experience (SAE)	Working with students with behavioral challenges
3.A.B.C.	Implementing strategies to benefit students served by an Individualized Education Program (IEP) with sensory challenges. Developing instruction for students served by an Individualized Education Program (IEP) with sensory challenges	Working with students with sensory challenges

	Advising students served by an Individualized Education Program (IEP) with sensory challenges placed in a Supervised Agricultural Experience (SAE)	
3.A.B.C.	Implementing strategies to benefit students served by an Individualized Education Program (IEP) with physical challenges. Developing instruction for students served by an Individualized Education Program (IEP) with physical challenges Advising students served by an Individualized Education Program (IEP) with physical challenges placed in a Supervised Agricultural Experience (SAE)	Working with students with physical challenges

Objectives one, two, and three were addressed by analyzing and reported using MWDS, mean, standard deviations, and MANOVAs. Objective four analyzed descriptive responses. Objective five and six analyzed and reported data using frequencies and percentages.

Chapter Summary

Chapter 3 discussed the methods used for this study. This descriptive correlational research used a quantitative survey-based instrument to identify Georgia High School agriculture teacher's perceived level of importance and competency when working with students with disabilities in the agriculture classroom and advising Supervised Agricultural Experiences (SAEs). This chapter reported the research design, population/sample, instrumentation, data collection, and data analysis. The validity and reliability of the study was examined by the researcher. The methods used in this study were followed in order to collect appropriate data concerning the guiding objectives of this study. The sample for the study was high school agriculture teachers across the state of Georgia. Teachers were asked to complete a survey-based instrument on Qualtrics where all data was collected anonymously and analyzed upon

completion of the instrumentation period. The following analysis procedures were used to report the data, means, standard deviations, frequencies, percentages, MWDS, and ANOVAs. Chapter four further breaks down the data results and findings.

CHAPTER 4: RESULTS

The purpose of this study was to examine the perceived level of importance and competence of Georgia's SBAE teachers when working with Students with Disabilities in the classroom and Supervised Agricultural Experiences (SAEs). This study was guided by the following objectives:

1. Report the personal characteristics of school-based agricultural education teachers in Georgia.
2. Determine the level of importance and competence of utilizing Individualized Education Programs (IEPs) as perceived by school-based agricultural education teachers in Georgia.
3. Determine the perceived importance and competency of school-based agricultural education teachers in Georgia when implementing best management practices to include students with disabilities in the classroom and Supervised Agricultural Experiences (SAEs).
4. Determine the perceived importance and competency of school-based agricultural education teachers in Georgia when including students with disabilities in the agriculture classroom and Supervised Agricultural Experiences (SAEs) based on learning challenges associated with their Individualized Education Program (IEP).
5. Identify changes in the inclusion of students with disabilities in the agricultural education classroom as observed by school-based agriculture education teachers in Georgia.
6. Determine the population of students with disabilities in the agriculture classroom participating in Supervised Agricultural Experiences (SAEs).

Objective One: Report the personal characteristics of secondary agricultural education teachers in Georgia.

Table 4 presents the demographic data for the respondents of the study. There was an even response between males (*N* = 21, 48.8%) and female respondents (*N* =21, 48.8%). Teachers were asked to select their highest degree earned as of Fall 2022. The largest group of respondents was those who have completed a bachelor's degree (*N* =18, 41.9%). Other groups that responded were those with a master's degree (*N* =12, 27.9%), a specialist degree (=9, 20.9%), and a doctorate degree (*N* =4, 9.3%). Teachers were asked to record the number of years they have taught agriculture with the top group being 11-20 years (*N* =13, 30.2%). The other groups represented are 1-5 years (*N* =12, 27.9%), 6-10 years (*N* =12, 27.9%), and over 20 years (*N* =5, 11.6%). The state of Georgia's agricultural education program is divided into three regions by location, North, Central, and South. The majority of respondents were from the North region (*N* =22, 51.2%). The other two regions were resented equally (*N* =10, 23.3%)

Table 4

Demographic Characteristics of Georgia School-Based Agriculture Educators

		N	*%*
Gender	Female	21	48.8
	Male	21	48.8
Highest degree earned	Bachelors	18	41.9
	Masters	12	27.9
	Specialist	9	20.9
	Doctorate	4	9.3
Years taught	1-5 years	12	27.9
	6-10 years	12	27.9
	11-20 years	13	30.2
	Over 20 years	5	11.6
Ag. Ed. Region	North	22	51.2
	Central	10	23.3
	South	10	23.3

Note: N=43.

Objective Two: Determine the level of importance and competence of utilizing Individualized Education Programs (IEPs) as perceived by secondary agricultural education teachers in Georgia.

A Borich analysis was used for teachers to report their perceived level of importance and competency. Items within the Borich analysis sections of the survey were divided into constructs based on specific content. Section one of the survey, Individualized Education Programs, was divided into four constructs, accessing IEPs, understanding IEPs, Utilizing IEPs, and Utilizing IEP supports.

Mean Weight Discrepancy Scores (MWDS) were used to determine if teacher's perceived level of importance and competency aligned. The difference represented by the MWDS can help researchers determine if there are any areas that teachers need more support or training. Mean Weight Discrepancy Scores (MWDS) by construct are shown in Table 5. All four constructs show teacher's reported high levels of importance but low levels of competency. In order from lowest *MWDS* to highest, understanding IEPs (*MWDS* = -2.63), utilizing IEP support (*MWDS* = -2.40), utilizing IEPs (*MWDS* = -2.35), and accessing IEPs (*MWDS* = -2.08).

Table 5

Mean Weight Discrepancy Scores for Section One Constructs

Construct	*MWDS*	*SD*	*Min*	*Max*	*α*
Accessing IEPs	-2.08	4.07	-8.67	8.52	.829
Understanding IEPs	-2.63	3.48	-17.38	2.69	.914
Utilizing IEPs	-2.35	3.57	-16.77	3.22	.845
Utilizing IEP support	-2.40	4.15	-15.47	6.70	.862

Note. MWDS=Mean Weighted Discrepancy Score.

Multiple comparisons were made between the section one constructs, accessing IEPs, understanding IEPs, utilizing IEPs, and utilizing IEP supports, and the teacher's highest degree

completed as of Fall 2022 as shown in Table 6. For accessing IEPs, teachers with a bachelor's degree (N = 18, M = -2.86) identified a higher level of importance but lower level of competency. The other groups from lowest mean to highest are as follows, master's degree (N = 12, M = -1.65), doctorate degree (N = 4, M = -1.63), and specialist degree (N = 9, M = -1.29). The construct, understanding IEPs, shows teachers with a doctorate degree (N = 4, M = -5.71) reported a higher importance but lower competency level. The remaining groups from lowest mean to highest is a bachelor's degree (N = 18, M = -2.83), master's degree *(N = 12, M* = -1.98), and specialist degree (N = 9, M = -1.72). When utilizing a student's IEP, teachers with a doctorate degree (N = 4, M = -4.97) had a higher level of perceived importance and lower level of competency. From lowest mean to highest for the other three groups, bachelor's degree (N = 18, M = -2.76), specialist degree (N = 9, M = -1.53), and master's degree (N = 12, M = -1.48). For the last construct, utilizing IEP support, teachers with a doctorate degree (N = 4, M = -6.23) have a higher level of perceived importance and lower level of competency. Ranking the remaining order from lowest mean to highest is a bachelor's degree (N = 18, M = -2.42), master's degree (N = 12, M = -1.76), and a specialist degree (N = 9, M = -1.51).

Table 6

Multiple Comparisons Between Highest Degree Earned and Section One Constructs

Construct	Highest Degree Completed	Mean	*SD*	*N*
Accessing IEPs	Bachelors	-2.86	3.92	18
	Masters	-1.65	5.21	12
	Specialist	-1.29	2.74	9
	Doctorate	-1.63	4.34	4
	Total	-2.08	4.07	43
Understanding IEPs	Bachelors	-2.83	1.90	18
	Masters	-1.98	3.53	12
	Specialist	-1.72	2.68	9
	Doctorate	-5.71	8.22	4
	Total	-2.63	3.48	43

Utilizing IEPs	Bachelors	-2.76	2.28	18
	Masters	-1.48	3.54	12
	Specialist	-1.53	2.35	9
	Doctorate	-4.97	8.56	4
	Total	-2.35	3.57	43
Utilizing IEP Supports	Bachelors	-2.42	3.00	18
	Masters	-1.76	5.47	12
	Specialist	-1.51	2.57	9
	Doctorate	-6.23	6.30	4
	Total	-2.40	4.15	43

Note. N=43.

For table 7 a Multiple Analysis of Variance (MANOVA) was calculated using highest degree completed grouped as the independent variable and constructs, accessing IEPs, understanding IEPs, utilizing IEPs, and utilizing IEP supports, as the dependent variables. Box's M test of equality of variance was not significant (p = .14) indicating an equality of covariance matrices. Multivariate tests indicate that no significant differences were present (*Wilk's* Λ = .700, F (12,96) = 1.15, p> .05).

Table 7

Multivariate Test Between Highest Degree Earned and Section One Constructs

Variable	*Wilk's* Λ	F	Df	Error Df	N2
Highest degree	.70	1.15	12	95.54	.11

Note. P > .05.

Multiple comparisons were made between section one constructs, accessing IEPs, understanding IEPs, utilizing IEPs, and utilizing IEP supports, and amount of time teaching agricultural education as of Fall 2022 as shown in Table 8. For accessing IEPs, teachers who have taught 1 – 5 years (*N* = 12, *M* = -3.33) identified a higher level of importance but lower level of competency. The other groups from lowest mean to highest are as follows, 6-10 years (*N* = 12, *M* = -2.58), 11 – 20 years (*N* = 13, *M* = -1.02), and over twenty years (*N* = 5, *M* = 0.58).

Teachers who have taught for over twenty years had a higher level of competency but found it to have lower importance for accessing IEPs. The construct, understanding IEPs, shows teachers who have taught for 6 – 10 years ($N = 12$, $M = -3.28$) reported a higher importance but lower competency level. The remaining groups from lowest mean to highest are 1 – 5 years ($N = 12$, $M = -3.28$), 11 – 20 years *($N = 13$, $M = -1.61$)*, and over twenty years ($N = 5$, $M = -0.37$). When utilizing a student's IEP, teachers who have taught 6 – 10 years ($N = 12$, $M = -3.12$) had a higher level of perceived importance and lower level of competency. From lowest mean to highest for the other three groups, 1 – 5 years ($N = 12$, $M = -2.52$), 11 – 20 years ($N = 13$, $M = -1.36$), and over twenty years ($N = 5$, $M = 0.21$). Teachers who have taught over twenty years recorded a higher level of competency but lower level of importance for utilizing a student's IEP. For the last construct, utilizing IEP support, teachers with a 1 – 5 years ($N = 12$, $M = -3.78$) have a higher level of perceived importance and lower level of competency. Ranking the remaining order from lowest mean to highest is a 6 - 10 years ($N = 12$, $M = -2.24$), 11 - 20 years ($N = 13$, $M = -1.92$), and over twenty years ($N = 5$, $M = 1.90$). Teachers who have taught for over twenty years have a higher level of competency and a lower level of importance for utilizing IEP support.

Table 8

Multiple Comparisons Between Years Teaching Agriculture and Section One Constructs

Construct	Years teaching	Mean	*SD*	*N*
Accessing IEPs	1-5 years	-3.33	3.96	12
	6-10 years	-2.58	3.53	12
	11-20 years	-1.02	3.55	13
	Over 20 years	0.58	5.64	5
	Total	-1.94	4.01	42
Understanding IEPs	1-5 years	-2.78	2.15	12
	6-10 years	-3.28	2.45	12
	11-20 years	-1.61	3.12	13
	Over 20 years	-0.37	1.89	5

	Total	-2.28	2.65	42
Utilizing IEPs	1-5 years	-2.52	2.28	12
	6-10 years	-3.12	2.31	12
	11-20 years	-1.36	3.39	13
	Over 20 years	0.21	2.31	5
	Total	-2.01	2.81	42
Utilizing IEP Supports	1-5 years	-3.78	3.37	12
	6-10 years	-2.24	2.91	12
	11-20 years	-1.92	3.91	13
	Over 20 years	1.90	2.92	5
	Total	-2.09	3.66	42

Note. N=43.

For table 9 a Multiple Analysis of Variance (MANOVA) was calculated using years teaching grouped as the independent variable and constructs, accessing IEPs, understanding IEPs, utilizing IEPs, and utilizing IEP supports, as the dependent variables. Box's M test of equality of variance was not significant (p = .89) indicating an equality of covariance matrices. Multivariate tests indicate that no significant differences were present (*Wilk's* = .681, F (12,93) = 1.21, p> .05).

Table 9

Multivariate Tests Between Years Teaching and Section One Constructs

Variable	*Wilk's*	F	Df	Error Df	N2
Years teaching	.68	1.21	12	92.90	.12

Note. P > .05.

Objective Three: Determine the perceived importance and competency of secondary agricultural education teachers in Georgia when implementing best management practices to include students with disabilities in the classroom and Supervised Agricultural Experiences (SAEs).

Items within the Borich analysis sections of the survey were divided into constructs based on specific content. Section two of the survey, Best Management Practices, was divided into two constructs, best practices in the classroom and best practices while advising Supervised SAEs.

Mean Weight Discrepancy Scores (MWDS) by construct are shown in Table 10 below. Both constructs show teacher's documented high levels of importance but low levels of competency for best management practices in the classroom (*MWDS* = -1.37) and best practices while advising SAEs (*MWDS* = -1.17).

Table 10

Mean Weight Discrepancy Scores for Section Two Constructs

Construct	*MWDS*	*SD*	*Min*	*Max*	*α*
Best Practices in the classroom	-1.37	2.40	-7.13	2.66	.901
Best practices while advising SAEs	-1.17	2.29	-7.79	3.97	.889

Note. MWDS=Mean Weighted Discrepancy Score.

Multiple comparisons were made between the section two constructs, best practices in the classroom, best practices advising SAEs and the teacher's highest degree earned as of Fall 2022 as shown in Table 11. For best practices in the classroom, the lowest mean, reporting that there is a high importance but low level of competency, is teachers with a doctorate degree ($N = 4$, $M = -2.90$). The remaining ranking from lowest to highest is a bachelor's degree ($N = 18$, $M = -1.59$), specialist degree ($N = 9$, $M = -1.45$), and a master's degree ($N = 12$, $M = -0.47$). Teachers who have earned their doctorate degree ($N = 4$, $M = -3.14$) also had the lowest mean for the construct, best practices advising SAEs. These teachers feel that the best practices used for advising SAEs are important but do not have a high level of competency in completing these practices. The remaining ranking is a specialist degree ($N = 9$, $M = -0.67$), master's degree ($N = 12$, $M = -0.39$), and a bachelor's degree ($N = 18$, $M = 1.51$). Teachers with a bachelor's degree reported a higher level of competency when using best practices for SAEs but did not find the practices very important.

Table 11

Multiple Comparisons Between Highest Degree Earned and Section Two Constructs

Construct	Highest Degree Completed	Mean	*SD*	*N*
Best practices in the classroom	Bachelors	-1.59	2.23	18
	Masters	-0.47	2.51	12
	Specialist	-1.45	1.99	9
	Doctorate	-2.90	3.52	4
	Total	-1.37	2.40	43
Best practices advising SAEs	Bachelors	1.51	2.34	18
	Masters	-0.39	1.92	12
	Specialist	-0.67	1.56	9
	Doctorate	-3.14	3.66	4
	Total	-1.17	2.29	43

Note. N=43.

In table 12 a Multiple Analysis of Variance (MANOVA) was calculated using highest degree completed grouped as the independent variable and constructs, best practices in the classroom and best practices advising SAEs, as the dependent variables. Box's M test of equality of variance was not significant (p = .20) indicating an equality of covariance matrices. Multivariate tests indicate that no significant differences were present (*Wilk's* = .855, F (6,76) = 1.03, p> .05).

Table 12

Multivariate Test Between Highest Degree Earned and Section Two Constructs

Variable	*Wilk's*	F	Df	Error Df	N2
Highest degree	.86	1.03	6	76	.08

Note. P > .05.

Multiple comparisons were made between the section two constructs, best practices in the classroom, best practices advising SAEs and the amount of time teaching agricultural education as of Fall 2022 as shown in Table 13. For best practices in the classroom, the lowest mean,

reporting that there is a high importance but low level of competency, is teachers with 6 – 10 years teaching agricultural education (N = 12, M = -1.75). The remaining ranking from lowest to highest is 1 – 5 years (N = 12, M = -1.74), 11 – 20 years (N = 13, M = -0.70), and over twenty years (N = 5, M = -0.65). Teachers who have taught agricultural education for 6 – 10 years (N = 12, M = -1.66) had the lowest mean for the construct, best practices advising SAEs. These teachers feel that the best practices used for advising SAEs are important but do not have a high level of competency in completing these practices. The remaining ranking is a 1 – 5 years (N = 12, M = -1.14), 11 – 20 years (N = 13, M = -0.75), and over twenty years (N = 5, M = -0.54).

Table 13

Multiple Comparisons Between Years Teaching Agriculture and Section Two Constructs

Construct	Highest Degree Completed	Mean	*SD*	*N*
Best practices in the classroom	1-5 years	-1.74		12
	6-10 years	-1.75		12
	11-20 years	-0.70		13
	Over 20 years	-0.65		5
	Total	-1.30		42
Best practices advising SAEs	1-5 years	-1.14		12
	6-10 years	-1.66		12
	11-20 years	-0.75		13
	Over 20 years	-0.54		5
	Total	-1.10		42

Note. N=43.

In table 14 a Multiple Analysis of Variance (MANOVA) was calculated using years teaching agriculture as the independent variable and constructs, best practices in the classroom and best practices advising SAEs, as the dependent variables. Box's M test of equality of variance was significant (p = .04) indicating inequality of covariance matrices. Multivariate tests indicate that no significant differences were present (*Wilk's* = .935, F (6, 74) = .40, p< .05).

Table 14

Multivariate Test Between Years Teaching and Section Two Constructs

Variable	*Wilk's*	F	Df	Error Df	N2
Years teaching	.94	.40	6	74	.03

Note. P > .05.

Objective Four: Determine the perceived importance and competency of secondary agricultural education teachers in Georgia when including students with disabilities in the agriculture classroom and Supervised Agricultural Experiences (SAEs) based on learning challenges associated with their Individualized Education Program (IEP).

Items within the Borich analysis sections of the survey were divided into constructs based on specific content. Section three of the survey, challenges associated with IEPs, was divided into seven constructs, implementation of learning strategies based on type of challenge, developing instruction bases on type of challenge, advising SAEs based on type of challenge, students with learning challenges, students with behavior challenges, students with sensory challenges, and students with physical challenges.

The seven constructs were further divided into two components. The first component is based on an overall outlook on working with students with challenges and the second is based on specific challenges. Mean Weight Discrepancy Scores (MWDS) by construct are shown in Table 15 below. All seven constructs show teacher's documented high levels of importance but low levels of competency. For the first component of working with students with challenges, in order from lowest *MWDS* to highest, implementation of learning strategies based on type of challenge (*MWDS* = -3.16), developing instruction based on type of challenge (*MWDS* = -3.10), and advising SAEs based on type of challenge (*MWDS* = -2.77). More teachers identified a higher level of importance of implementing learning strategies based on types of challenge but had a

lower level of competency. For the second component based on type of challenge, in order from lowest *MWDS* to highest, students with physical challenges (*MWDS* = -3.65), students with sensory challenges (*MWDS* = -3.42), students with behavior challenges (*MWDS* = -2.64), and students with learning challenges (*MWDS* = -2.33). More teachers identified a higher level of competency when working with students that have physical challenges, but they have a lower level of competency.

Table 15

Mean Weight Discrepancy Scores for Section Three Constructs

Construct	*MWDS*	*SD*	*Min*	*Max*	*α*
Implementation of learning strategies based on type of challenge	-3.16	3.09	-8.83	3.32	.904
Developing instruction based on type of challenge	-3.10	3.83	-13.23	4.33	.869
Advising SAEs based on type of challenge	-2.77	3.19	-8.76	4.36	.898
Students with learning challenges	-2.33	2.75	-8.82	5.88	.804
Students with behavior challenges	-2.64	2.96	-8.60	2.88	.774
Students with sensory challenges	-3.42	3.33	-10.19	2.93	.834
Students with physical challenges	-3.65	4.09	-11.99	4.54	.805

Note. MWDS=Mean Weighted Discrepancy Score.

Table 16 reports the multiple comparisons between constructs for section three, implementation of learning strategies based on challenges, developing instruction based on challenges, and advising SAEs based on challenges, and the teacher's highest degree earned as of Fall 2022. Construct one, implementation of learning strategies, teachers reported a higher level of importance and a lower level of competency. Teachers with a bachelor's degree (N = 18, M = -4.41) had the lowest mean, resulting in a lower level of competency and higher level of identified importance. The remaining results in order were a doctorates degree (N = 4, M = -2.50), a specialist degree (N = 9, M = -2.45), and a master's degree (N = 12, M = -2.02). Teachers

identified a high level of importance and a lower level of competency when developing instruction based on challenges. In order from lowest mean to highest, a bachelor's degree (N = 18, M = -4.41), doctorate degree (N = 4, M = -3.00), specialist degree (N = 9, M = -2.46), and master's degree (N = 12, M = -1.66). Teachers who have earned their bachelor's degree (N = 18, M = -4.38) noted the lowest level of competency with a high level of importance for advising SAEs based on challenges. The remaining results were a specialist degree (N = 9, M = -1.69), master's degree (N = 12, M = -1.64), and doctorate degree (N = 4, M = -1.37).

Table 16

Multiple Comparisons Between Highest Degree Earned and Section Three Constructs

Construct	Highest Degree Completed	Mean	*SD*	*N*
Implementation of learning strategies based on challenge	Bachelors	-4.41	2.37	18
	Masters	-2.02	3.67	12
	Specialist	-2.45	3.21	9
	Doctorate	-2.50	2.91	4
	Total	-3.16	3.09	43
Developing instruction based on challenge	Bachelors	-4.41	3.15	18
	Masters	-1.66	3.65	12
	Specialist	-2.46	3.53	9
	Doctorate	-3.00	6.85	4
	Total	-3.10	3.83	43
Advising SAEs based on challenge	Bachelors	-4.38	3.22	18
	Masters	-1.64	3.21	12
	Specialist	-1.69	2.12	9
	Doctorate	-1.37	2.74	4
	Total	-2.77	3.19	43

Note. N=43.

For Table 17 a Multiple Analysis of Variance (MANOVA) was calculated using highest degree completed grouped as the independent variable and constructs, implementation of learning strategies based on challenges, developing instruction based on challenges, and advising SAEs based on challenges, as the dependent variables. Box's M test of equality of variance was

not significant (p = .27) indicating an equality of covariance matrices. Multivariate tests indicate that no significant differences were present (*Wilk's* = .785, F (9,90) = 1.05, p> .05).

Table 17

Multivariate Test Between Highest Degree Earned and Section Three Constructs

Variable	*Wilk's*	F	Df	Error Df	N2
Highest degree	.79	1.05	9	90.20	.07

Note. P > .05.

Table 18 represents the multiple comparisons between constructs for section three, implementation of learning strategies based on challenges, developing instruction based on challenges, and advising SAEs based on challenges, and the amount of time the teacher has been teaching agricultural education as of Fall 2022. Construct one, implementation of learning strategies, teachers reported a higher level of importance and a lower level of competency. Teachers who have taught for 1-5 years (*N* = 12, *M* = -4.42) had the lowest mean, resulting in a lower level of competency and higher level of identified importance. The remaining results in order were 6 – 10 years (*N* = 12, *M* = -3.95), 11 – 20 years (*N* = 13, *M* = -2.12), and over twenty years (*N* = 5, *M* = -0.66). Teachers identified a high level of importance and a lower level of competency when developing instruction based on challenges. In order from lowest mean to highest, 1 –5 years teaching (*N* = 12, *M* = -4.05), 6 –10 years (*N* = 12, *M* = -3.96), 11 – 20 years (*N* = 13, *M* = -2.71), and over twenty years (*N* = 5, *M* = -0.67). Teachers who have taught agricultural education for 1 – 5 years (*N* = 12, *M* = -4.19) noted the lowest level of competency with a high level of importance for advising SAEs based on challenges. The remaining results were 6 – 10 years (*N* = 12, *M* = -4.01), 11 – 20 years (*N* = 13, *M* = -1.51), and over twenty years (*N* = 5, *M* = -0.20).

Table 18

Multiple Comparisons Between Years Teaching Agriculture and Section Three Constructs

Construct	Years teaching agriculture	Mean	*SD*	*N*
Implementation of learning strategies based on challenges	1-5 years	-4.42	2.45	12
	6-10 years	-3.95	2.33	12
	11-20 years	-2.12	3.76	13
	Over 20 years	-0.66	2.87	5
	Total	-3.13	3.12	42
Developing instruction based on challenges	1-5 years	-4.05	4.04	12
	6-10 years	-3.96	2.84	12
	11-20 years	-2.71	4.53	13
	Over 20 years	-0.67	2.74	5
	Total	-3.21	3.81	42
Advising SAEs based on challenges	1-5 years	-4.19	3.05	12
	6-10 years	-4.01	2.48	12
	11-20 years	-1.51	3.35	13
	Over 20 years	-0.20	2.23	5
	Total	-2.84	3.20	42

Note. N=43.

In table 19 a Multiple Analysis of Variance (MANOVA) was calculated using years teaching agriculture as the independent variable and constructs, implementation of learning strategies based on challenges, developing instruction based on challenges, and advising SAEs based on challenges, as the dependent variables. Box's M test of equality of variance was significant (p = .005) indicating an inequality of covariance matrices. Multivariate tests indicate that no significant differences were present (*Wilk's* = .715, F (9,88) = 1.44, p> .05).

Table 19

Multivariate Test Between Years Teaching Grouped and Section Three Constructs

Variable	*Wilk's*	F	Df	Error Df	N2
Years teaching	.72	1.44	9	87.77	.11

Note. P > .05.

Multiple comparisons were made in Table 20 between the highest degree the teacher has earned as of Fall 2022 and 4 constructs of section three, working with students with learning challenges, students with behavior challenges, students with sensory challenges, and students with physical challenges. All four constructs have the lowest mean being teachers with a bachelor's degree. Construct one, working with students with learning challenges, proved to be very important for teachers who have earned a bachelor's degree (N = 18, M = -3.19) but they had a lower level of perceived competency. Other responses agreed, doctorate degree (M = -2.21), specialist degree (N = 9, M = -1.80), and master's degree (N = 12, M = -1.47). Similar to the first construct, the second construct of working with students with behavior challenges, teachers with a bachelor's degree (N = 18, M = -3.67) had the lowest mean. These teachers report a high level of importance yet have a lower level of competency completing the task. The remaining results are doctorate degrees (N = 4, M = -2.50), specialist degrees (N = 9, M = -1.91), and master's degrees (N = 12, M = -1.68). When working with students with sensory challenges, teachers with a bachelor's degree (N = 18, M = -5.18) had the lowest mean. Following a bachelors is a doctorate degree (N = 4, M = -2.56), specialist degree (N = 9, M = -2.43), and a master's degree *(N = 12, M =* -1.82). The final construct, working with students with physical challenges again resulted in the lowest mean being teachers with a bachelor's degree (N = 18, M = -5.56). The remaining results in order from lowest to highest mean are as follows, specialist degree (N = 9, M = -2.66), master's degree (N = 12, M = -2.12), and doctorate degree (N = 4, M = -1.86).

Table 20

Multiple Comparisons Between Highest Degree Earned and Section Three Constructs

Construct	Highest Degree Completed	Mean	*SD*	*N*

Students with learning challenges	Bachelors	-3.19	2.09	18
	Masters	-1.47	3.76	12
	Specialist	-1.80	2.18	9
	Doctorate	-2.21	2.82	4
	Total	-2.33	2.74	43
Students with Behavior Challenges	Bachelors	-3.67	2.99	18
	Masters	-1.68	3.22	12
	Specialist	-1.91	2.03	9
	Doctorate	-2.50	3.37	4
	Total	-2.63	2.96	43
Students with Sensory Challenges	Bachelors	-5.18	3.17	18
	Masters	-1.82	3.24	12
	Specialist	-2.43	2.42	9
	Doctorate	-2.56	3.45	4
	Total	-3.42	3.33	43
Students with Physical Challenges	Bachelors	-5.56	3.89	18
	Masters	-2.12	3.09	12
	Specialist	-2.66	3.07	9
	Doctorate	-1.86	7.08	4
	Total	-3.65	4.10	23

Note. N=43.

For table 21 a Multiple Analysis of Variance (MANOVA) was calculated using highest degree earned grouped as the independent variable and constructs, kids with learning challenges, kids with behavior challenges, kids with sensory challenges, and kids with physical challenges, as the dependent variables. Box's M test of equality of variance was significant (p = <.001) indicating an inequality of covariance matrices. Multivariate tests indicate that no significant differences were present (*Wilk's* = .729, F (12,96) = 1.01, p> .05).

Table 21

Multivariate Test Between Highest Degree Earned Grouped and Section Three Constructs

Variable	*Wilk's*	F	Df	Error Df	N2
Highest degree grouped	.73	1.01	12	95.54	.10

Note. P > .05.

Multiple comparisons were made in Table 22 between the amount of time the teacher has taught agricultural education as of Fall 2022 and 4 constructs of section three, working with students with learning challenges, students with behavior challenges, students with sensory challenges, and students with physical challenges. Construct one, working with students with learning challenges, proved to be very important for teachers who have taught agricultural education for 6 – 10 years (N = 12, M = -3.43) but they had a lower level of perceived competency. Other responses agreed, 1 – 5 years (N = 12, M = -3.19) and 11 – 20 years (N = 13, M = -1.70). Those who have taught over twenty years (N = 5, M = 0.88) had a positive mean close to 0 resulting in similar rankings for both importance and competency when working with students with learning challenges, leaning towards higher competency and lower importance levels. The second construct of working with students with behavior challenges, teachers who have taught agricultural education for 1 – 5 years (N = 12, M = -3.24) had the lowest mean. These teachers report a high level of importance yet have a lower level of competency completing the task. The remaining results are 6-10 years (N = 12, M = -3.23), 11 – 20 years (N = 13, M = -2.32), and over twenty years (N = 5, M = -0.57). When working with students with sensory challenges, teachers who have taught agricultural education for 1 – 5 years (N = 12, M = -4.61) had the lowest mean. Following 6 – 10 years (N = 12, M = -4.37), 11 – 20 years (N = 13, M = -2.13), and over twenty years *(N = 5, M* = -1.75). The final construct, working with students with physical challenges again resulted in the lowest mean being teachers who have taught 1- 5 years (N = 12, M = -5.85). The remaining results in order from lowest to highest mean are as follows, 6 - 10 years (N = 12, M = -4.86), 11 – 20 years (N = 13, M = -2.30), and over twenty years (N = 5, M = -0.61).

Table 22

Multiple Comparisons Between Years Teaching Agriculture and Section Three Constructs

Construct	Years teaching agriculture	Mean	*SD*	*N*
Students with learning challenges	1-5 years	-3.19	1.86	12
	6-10 years	-3.43	1.92	12
	11-20 years	-1.70	3.23	13
	Over 20 years	0.88	2.87	5
	Total	-2.31	2.78	42
Students with behavior challenges	1-5 years	-3.24	2.80	12
	6-10 years	-3.23	3.06	12
	11-20 years	-2.32	3.13	13
	Over 20 years	-0.57	2.79	5
	Total	-2.63	3.00	42
Students with sensory challenges	1-5 years	-4.61	3.56	12
	6-10 years	-4.37	2.91	12
	11-20 years	-2.13	3.19	13
	Over 20 years	-1.75	3.48	5
	Total	-3.44	3.73	42
Students with physical challenges	1-5 years	-5.85	3.40	12
	6-10 years	-4.86	3.61	12
	11-20 years	-2.30	4.17	13
	Over 20 years	-0.61	1.71	5
	Total	-3.84	3.94	42

Note. N=43

In table 23 a Multiple Analysis of Variance (MANOVA) was calculated using years teaching agriculture grouped as the independent variable and constructs, kids with learning challenges, kids with behavior challenges, kids with sensory challenges, and kids with physical challenges, as the dependent variables. Box's M test of equality of variance was not significant ($p = .20$) indicating an equality of covariance matrices. Multivariate tests indicate that no significant differences were present (*Wilk's* = .548, $F(12,93) = 1.98$, $p > .05$).

Table 23

Multivariate Test Between Years Teaching Grouped and Section Three Constructs

Variable	*Wilk's*	F	Df	Error Df	N2
Years teaching	.55	1.98	12	92.89	.18

Note. P > .05.

Objective Five: Identify changes in the inclusion of students with disabilities in the agricultural education classroom as observed by secondary agriculture education teachers in Georgia.

Teachers were asked to identify any changes they have witnessed over time in the agriculture classroom in terms of inclusion of students with disabilities as reported in Table 24. A significant number of teachers agree that there has been an increase in the number of students with disabilities being placed in the agriculture classroom. With this increase in population, more options for modifications and accommodations have been developed for working with these students. Although there are supportive inclusion strategies for teachers to use, there also have been identified barriers. Teachers identified a lack of support or support staff in the classroom, increased expectations, and difficulties adjusting the curriculum to meet a wide variety of needs among the students with disabilities.

Table 24

Changes Georgia SBAE Teachers Have Noticed Over the Years in Inclusion in the Agriculture Classroom.

Respondent	Statement
1	*"*I have only been teaching for 3 years, so there have not been many changes."
2	"Physical Restrictions in Lab Environments, Small Group & Extended Time Challenges, Differentiation."
3	"Behavioral modifications are the toughest, especially with tools and anger issues."
4	"Some of the IEPs need to be updated."
5	"They are now all on the online portal."
6	"There are many more students with IEPs in my classes now."
7	"High school students get CTI help where middle school gets no help."

8	“In Agricultural Education there is a tendency of Administration to have a different perspective of what is required in our classrooms and labs in regards to students with IEP's. Also there is not the respect and appreciation of agricultural educators and CTAE teachers in general in their challenges and extensive preparations to have engaging, meaningful, and rewarding curriculum and learning experiences for special education students.”
9	“Having counselors and SPED coordinators that understand the nature of ag ed before they place students in my class is paramount.”
10	“Handon activities have become the norm in my classroom for students with IEPs.”
11	“They have become more frequent/common to the point where students that actually need the assistance get lost in the case load, and oftentimes do not get the proper assistance they need.”
12	“They are getting more involved with hands-on assignments.”
13	“There tends to be large amounts in one class at a time.”
14	“I have not had IEP students until this year of teaching. We do have IEP meetings throughout the year to talk about any changes to an IEP during this time and what might need to be added.”
15	“These students thrive in an agriculture classroom because of the variety of opportunities and methods of learning styles that are available.”
16	“I might be an outlier in my response. When I first started I had Sped teachers coming with the students to help and I did not have to worry about changing my lesson. Now that we have been growing that is no longer the case and they throw those students in and say do the best you can. The laundry list of expectations continues to grow and it is your fault when the student is failing.”
17	“Students tend to gravitate to Agriculture more than other CTAE classes.”
18	“Numbers have increased.”
19	“The amount of support from paraprofessionals and push in teachers varies greatly.”
20	“No changes. Throughout my career, students with IEPs have been active in the agriculture classroom and FFA.”
21	“I've only been teaching 4 years. We get very little information in regards to IEPs. Only student accommodations.”
22	“I have always believed that agriculture classes can be great for students with IEPS. These courses give those students a chance to shine with as much hands on application as we have.”
23	“Modifying assignments, chunking assignments, guided notes, using CTI services.”
24	“I mainly have seen changes school to school. Some schools will have more IEPs and other schools will have less and will work towards supporting student in a way that they no longer need a IEP to be successful in school.”
25	“There are more students with IEPS. Also, special ed teachers have taken a greater role in the ag education classrooms.”

26	“There are many more students with IEPs.”
27	“More of them.”
28	“None.”
29	“It seems that IEPs have remained consistent since I have been teaching.”
30	“No changes.”
31	“I have noticed the increase in the number of students with IEP's.”
32	“Students are faced with social interaction issues with peers as related to shelter in place through the virtual environment.”
33	“I think each school does things so differently the changes I have seen are more reflective of the school. And the support given at each school is different for CTAE courses. Recently, I have seen more of an emphasis on making sure we have the paraprofessional support to ensure that accommodations are met. This has not always been the case with CTAE courses.”
34	“I have Noticed that now larger majorities of students have some type of 504 or IEP. Also noticed that we have less support offered from parapros with the larger case loads.”
35	“Numbers of students with an iep in my classes has be pretty constant averaging around 3-5 per class.”

Note. N = 43.

Objective Six: Determine the population of students with disabilities in the agriculture classroom participating in Supervised Agricultural Experiences (SAEs).

For table 25 the population of students with disabilities placed in agricultural education classes was determined by asking teachers how many students with disabilities they currently teach in their courses as of Fall 2022. The largest group of respondents were teachers who have 11-20 students (f = 14, 34.9%) total during the Fall 2022 semester. Other groups reported are 0 students (f = 2, 4.7%), 1 – 10 students (f = 5, 11.6%), 21 – 30 students (f = 11, 25.6%), and over 30 students (f = 10, 23.3%). Of those students currently enrolled in agricultural education classes, teachers were asked to report how many were being advised in a Supervised Agricultural Experience (SAE). The largest group of students participating in SAEs is 1-25% (f = 19, 44.2%) of the total population. The other responses were as follows, 26 – 50% (f = 4, 9.3%), 51 – 75% (f =2, 4.7%), and 76 –100% (f = 18, 41.9%).

Table 25

Agricultural Education Enrollment for 2022-2023 School Year

		f	%
Total served by Individualized Education Program (IEP)	0 students	2	4.7
	1-10 students	5	11.6
	11-20 students	15	34.9
	21-30 students	11	25.6
	Over 30 students	10	23.3
Total served by IEP placed in Supervised Agricultural Experience (SAE)	1-25%	19	44.2
	26%-50%	4	9.3
	51%-75%	2	4.7
	76%-100%	18	41.9

Note: N=43

Summary

Chapter four reported the findings of this study based upon the following objectives: 1) report the personal characteristics of school-based agricultural education teachers in Georgia, 2) determine the level of importance and competence of utilizing Individualized Education Programs (IEPs) as perceived by school-based agricultural education teachers in Georgia, 3) determine the perceived importance and competency of school-based agricultural education teachers in Georgia when implementing best management practices to include students with disabilities in the classroom and Supervised Agricultural Experiences (SAEs), 4) determine the perceived importance and competency of school-based agricultural education teachers in Georgia when including students with disabilities in the agriculture classroom and Supervised Agricultural Experiences (SAEs) based on learning challenges associated with their Individualized Education Program (IEP), 5) identify changes in the inclusion of students with disabilities in the agricultural education classroom as observed by school-based agriculture education teachers in Georgia, and 6) determine the population of students with disabilities in the agriculture classroom participating in Supervised Agricultural Experiences (SAEs). The findings

reported in chapter four represent the perceptions and demographics of Georgia's School-Based Agricultural Education Teachers. These findings help develop future training, professional development, and research that can be done to address the needs presented in the findings. The conclusions and recommendations made from these findings are further discussed in Chapter 5.

CHAPTER 5: SUMMARY, CONCLUSIONS, & RECOMMENDATIONS

Introduction

The purpose of this study was to examine the perceived level of importance of and competence of Georgia's SBAE teachers when working with Students with Disabilities in the classroom and Supervised Agricultural Experiences (SAEs). Agricultural Education has led the way for hands-on teaching approaches for learning life and job-ready skills. Both skills are increasingly needed for students with disabilities. The development of these skills are needed to ensure that these students are able to enter the workforce or to live a more independent life upon graduation. Knowing that agricultural education can provide students with disabilities these skills, the enrollment numbers of students with disabilities in agriculture classes has increased tremendously over the years. Agriculture teachers are being asked to diversify their teaching strategies to support positive inclusion of students with disabilities in their classroom. As a part of the three-ring model, classroom instruction, FFA, and Supervised Agricultural Experiences, agriculture teachers are also asked to include students with special needs in SAEs. These SAE projects are specifically designed for students to gain knowledge and skills in a career they are interested in for the future.

With an increase in the enrollment of students with disabilities in the agriculture classroom, it is important to make sure that the agriculture teacher is well trained and confident in their abilities of inclusion. Successful inclusion starts first with the teachers own self perception of their ability. This study attempted to describe how Georgia SBAE teachers view the inclusion of students with disabilities in their classroom and when placing these students in SAE programs.

Summary of Study

This study was designed to examine how Georgia SBAE teachers perceive the inclusion of students with disabilities in their programs. This goal, the objectives, and the design of this study were based upon the AAAE National Research Agenda. Research priority number four, Meaningful, Engaged Learning in All Environments, was the basis for this research (Thoron et al., 2016). Research priority number 4 discusses meeting the needs of students who are considered to be a non-traditional agriculture student. Through the evaluation of Georgia SBAE teacher's perception of inclusion in their programs, pre-service and in-service learning can be reevaluated to meet the needs found through this study. The objectives of this study that were guided by the National Research Agenda were:

1. Report the personal characteristics of school-based agricultural education teachers in Georgia.
2. Determine the level of importance and competence of utilizing Individualized Education Programs (IEPs) as perceived by school-based agricultural education teachers in Georgia.
3. Determine the perceived importance and competency of school-based agricultural education teachers in Georgia when implementing best management practices to include students with disabilities in the classroom and Supervised Agricultural Experiences (SAEs).
4. Determine the perceived importance and competency of school-based agricultural education teachers in Georgia when including students with disabilities in the agriculture classroom and Supervised Agricultural Experiences (SAEs) based on learning challenges associated with their Individualized Education Program (IEP).

5. Identify changes in the inclusion of students with disabilities in the agricultural education classroom as observed by school-based agriculture education teachers in Georgia.
6. Determine the population of students with disabilities in the agriculture classroom participating in Supervised Agricultural Experiences (SAEs).

The inclusion of students with disabilities in the agriculture program is vital for the student's future success. The list of benefits that a student with disabilities can gain from effectively learning and participating the agriculture program is endless. Before a student can reach that success, the teacher must provide the optimum learning environment for that student. The agriculture teacher must have an understanding and the capability while valuing the importance of the many factors that go into successful inclusion. The strategies used for inclusion in the agriculture classroom may or may not work as effectively for when advising these students in their Supervised Agricultural Experience. Many times, preservice training does not include strategies for inclusion in FFA and SAE. This can present difficulties as every SBAE in the state of Georgia is required to have a minimum of 60% of their students placed in a Supervised Agricultural Experience. It is important to evaluate the needs of Georgia's SBAE teachers for the inclusion of students with special needs in the agriculture and SAE program.

This quantitative descriptive correlations survey research design evaluated the perceived importance and competency of teachers on the inclusion of students with disabilities in the agriculture classroom and advising those placed in Supervised Agricultural Experiences. A non-probability sample ($N = 198$) of the population was determined using the Krejcie and Morgan (1970) sample size calculator. Forty-two teachers responded and completed the online survey. Participants were asked to complete an online questionnaire regarding their perceptions of the

importance and their competency level associated with the inclusion of students with disabilities in an agriculture program. Teachers were then asked to report their current enrollment numbers of students with disabilities placed in their agriculture program for the 2022-2023 school year. Of those enrollment numbers, teachers were asked to report how many of those students with disabilities were placed in a SAE program. Next, teachers reported any changes they had seen in over the course of their teaching experience in the area of inclusion of students with disabilities and IEPs. Finally, teachers provided their demographic information. The collected data was analyzed using SPSS 28 and reported using various statistical methods including, frequencies, percentages, means, standard deviations, and mean weigh discrepancy scores.

Conclusions and Discussion

Georgia SBAE teacher's perception of the inclusion of students with disabilities in the agriculture classroom and SAEs yielded the following conclusions:

1. The majority of Georgia SBAE teacher's highest degree earned is a bachelor's degree.
2. Understanding IEPs have the lowest average MWDS of the IEP constructs.
3. Georgia SBAE teachers who had earned their doctorate had the highest levels of perceived importance towards IEPS and lower competency.
4. Georgia SBAE teachers who had over 20 years of service had equal emphasis on importance and competency for all four IEP constructs.
5. Best Management Practices for the inclusion of students with disabilities in the classroom had the lowest MWDS of the best management practices constructs.
6. GA SBAE teachers who had earned their doctorate had the highest levels of perceived importance towards both best management constructs and lower levels of competency.

7. GA SBAE teachers who had over 20 years of service had equal emphasis on importance and competency for both management constructs.
8. Implementing learning strategies based on the student's associated challenge had the lowest average MWDS of the three inclusion constructs.
9. Working with students with physical challenges had the lowest average MWDS of the four challenge constructs.
10. Competency for the three inclusion constructs, implementation, development, and advising increased as the teacher gained years of experience.
11. Competency for the four types of challenges, physical, sensory, behavioral, and learning, increased as the teacher gained years of experience.
12. Georgia SBAE teachers who had earned their bachelors had the highest levels of perceived importance and lower levels of competency for both the three inclusion and four types of challenges constructs.
13. There has been an increase in the number of students with disabilities being placed in agricultural programs in Georgia.
14. Georgia SBAE teachers have identified that there are barriers to full inclusion in the agriculture classroom and SAEs.
15. Most GA SBAE teachers place less than 25% of their IEP students in an SAE program.
16. GA SBAE teachers average 11-20 IEP students in their programs annually.

Objective One Conclusions

Objective One: Report the personal characteristics of school-based agricultural education teachers in Georgia.

There is a large number of teachers whose highest degree earned is their bachelor's degree. Among the respondents (*N* =18), 41.9% reported only having earned their bachelor's degree. Only 9.3% of respondents (N = 4) have earned their doctorate degree. With increased levels of degrees earned comes an increase in knowledge of how to successfully manage an agriculture program. This demographic could be linked to 27.0% of respondents having only taught agriculture for 1-5 years. It can be concluded that it is vital to reach teachers in their pre-service stage, completing their bachelor's degree, meeting their needs of training for the inclusion of students with special needs.

Objective Two Conclusions

Objective Two: Determine the level of importance and competence of utilizing Individualized Education Programs (IEPs) as perceived by school-based agricultural education teachers in Georgia.

According to MWDS data teachers perceived they were the least competent at understanding Individualized Education Plans. Opposite of that, teachers felt more competent at accessing their student's IEPs. The construct of Understanding IEPs included completely reading an IEP, understanding the definitions of area of disability, being aware of the laws that apply to disabilities, ability to interpret the laws that apply to disabilities, defining the term accommodation, defining the term modification, defining the term inclusion, and defining the term least restrictive environment. More pre-service and in-service training needs to cover the topics identified in the Understanding IEPs construct.

Over all four constructs, Accessing IEPs, Understanding IEPs, Utilizing IEPs, and Utilizing IEP supports, teachers who had earned their doctorate degree reported perceiving them to have a high level of importance and a low level of competency. This identifies a need for continuous in-service training for teachers in need. Over time with experience, many teachers develop a higher level of competency. Teachers who have taught agriculture for over 20 years had an equal level of reported perception of importance and competency across all four concepts.

Objective Three Conclusions

Objective Three: Determine the perceived importance and competency of school-based agricultural education teachers in Georgia when implementing best management practices to include students with disabilities in the classroom and Supervised Agricultural Experiences (SAEs).

MWDS data reports that teachers perceived themselves to be less competent when implementing best management practices in the classroom as compared to implementing these strategies while advising students with disabilities in Supervised Agricultural Experiences. Best management practices included, breaking down instruction, managing the learning environment, providing positive reinforcement, providing additional time, providing positive learning atmospheres, modifying examination, emphasizing hands-on learning, providing alternative rubrics, shortening assignments, and providing oral examination opportunities. This data shows that more instruction on how to implement strategies in the classroom needs to take place. Wilson (2022) reported that when evaluating the three-ring model, teachers spend 44% of their time on classroom instruction. Gaining competency in the classroom must be increased being that teachers have identified spending more time in that area than SAEs.

Over both constructs, teachers who have earned their doctorate degree identified having a lower perceived level of competency when it came to implementing best management practices for both classroom instruction and while advising SAEs. Those teachers who have taught for over 20 years identified have equal levels of importance and competency for both constructs. Continuous in-service training is needed as it is reported that competency builds over time and experience.

Objective Four Conclusions

Objective Four: Determine the perceived importance and competency of school-based agricultural education teachers in Georgia when including students with disabilities in the agriculture classroom and Supervised Agricultural Experiences (SAEs) based on learning challenges associated with their Individualized Education Program (IEP).

According to MWDS data, teachers perceived themselves to have lower competency when working with students with physical challenges rather than those with sensory, behavioral, or learning challenges. Georgia teacher's competency for working with all four types of challenges increased with the amount of time they have taught agriculture, gaining experience. This can be tied in with the data reporting that teachers who have earned only a bachelor's degree having the least amount of competency when working with students with challenges. Both pre-service and in-service training is valuable for learning to work with students with various challenges in the agriculture classroom.

MWDS data additionally reported that teachers perceived themselves to have lower competency when implementing learning strategies based on the type of challenge. Teachers were more competent when advising SAEs and developing instructions based on types of challenges. Similar to types of challenges, teacher's competency increased over the amount of

time teaching agriculture, with experience. Teachers who have earned only a bachelor's degree had the lowest competency rating.

Objective Five Conclusions

Objective Five: Identify changes in the inclusion of students with disabilities in the agricultural education classroom as observed by school-based agriculture education teachers in Georgia.

Georgia SBAE teachers identified an increase in the population of students placed in the agriculture program over the course of their time in the classroom. Teachers reported that these classes helped increase skills needed by students with disabilities in order to be successful. Due to the increase in population, there have also been identified struggles or barriers to successful inclusion including lack of support from the school system including paraprofessional support in the classrooms, difficulties development curriculum adjustments, and an increased level of expectations from the school system and state. Many of the reported struggles are school system dependent.

Objective Six Conclusions

Objective Six: Determine the population of students with disabilities in the agriculture classroom participating in Supervised Agricultural Experiences (SAEs).

During the 2022-2023 school year, 34.9% of respondents (N = 15) reported having 11 – 20 students with disabilities enrolled in their agriculture program. The next highest reported enrollment level was 21 – 30 students (*N.* =11, 25.6%). The population of students with disabilities placed in general education classrooms for 80% or more of the day has consistently remained around 62% of the IEP population for the last five years according to the Special Education Annual Reports (2021). Due to IDEA and Least Restrictive Environments, as well as a demand more a skilled workforce, it is projected that this number will increase. More pre-service

preparation as well as in-service preparation is needed for agriculture teachers in order to successfully manage in the increase in students with disabilities in the agriculture program.

Of the students with disabilities enrolled in agriculture programs. Georgia SBAE teachers reported advising less than 25% of the population in SAEs. Per Georgia SBAE teacher's Program of Work, it is required to advise a minimum of 60% of the enrolled students in SAEs. Many agriculture educators may rely on the general education population to make up for most of that percentage needed. When looking back at best management practices, using best management practice while advising SAEs had a higher competency rating than in classroom. The competency level is still not high enough to increase the participation level from 25% to 100%.

Recommendations for Practice

An agriculture teacher who has students enrolled in their courses who have Individualized Education Programs also serves as a team member for each student's IEP team. It is imperative for the teacher to attend each IEP meeting that is held throughout the year. An agriculture teacher already has a very tightly planned schedule with SAE visits, CDE/LDEs, livestock shows, greenhouses, etc. and many times IEP meetings get swept to the side due to other requirements. By making sure that all IEP meetings are attended, not only with the teacher gain a better understanding of the IEP process and how to better educate the child, but the student will also become more successful through a better educated teacher. To take it a step further, department meetings should be held once a year or every other year between the agriculture department and the special education department. These meetings can be a safe space for discussion of the expectations and goals for each program. Studies have shown that humans learn best from talking or watching one another. By having meetings with teachers in the special

education department, agriculture teachers who may feel they are lacking in an are or are unsure of a topic can receive a broken down, relatable explanation versus simply reading an article on the internet. Same can be said for a special education teacher who may not know what an SAE is or the expectations for one. These discussions can build better communication skills and further, build the teachers level of competency and importance for various IEP topics or skills.

Everyone has heard of the phrase, "you never know until you try," or "if you fail, get back up and try again." Georgia SBAE teachers are placing less than 25% of their student population with disabilities in SAE programs. While this study did not seek to answer the question, why? It can still be recommended from the findings that the agriculture teacher try to increase their placement of students with disabilities in an SAE program. With the involvement of the parent, special education department, and paraprofessionals, if available, agriculture teachers should at least begin the process of SAEs with the student. Have the students, depending on their abilities, either write out or talk about what their interest are in agriculture or a future career. SAE projects can easily take place on campus in the school greenhouse, chicken coop, wood shop, etc. Increasing the number of students placed allow for the teacher to learn through experiences of what worked and what did not. The teacher also learns that each student is different in their interest and capabilities. By building the relationships with parents and the special education department, teachers will not feel alone in the task and will be able to better successfully include students with disabilities. These experiences will also lead to more confidence in their capabilities in the classroom.

Recommendations for Teacher Preparation and Professional Development

Based upon the findings and conclusions of this study, recommendations for teacher preparation and professional development have been developed. Teacher preparation programs

can benefit from an evaluation of their courses offered and potentially designing an agricultural education inclusion course for pre-service teachers. Teacher preparation programs can also develop assignments for apprentice teachers during their apprenticeship to further involve the special education department. Professional Development is ever changing and adapting to the needs of teachers. Teachers can benefit from the development of a professional learning opportunity in the area of inclusion in agricultural education.

For an undergraduate student majoring in agricultural education, course requirements usually include a minimum of one, three-hour, special education course. When researching the degree requirements for an agricultural education major at the University of Georgia, students have the option of choosing one course from the following options, Students with Special Needs in Programs of Workforce Education or Inclusion of Students with Special Needs: Grades 6-12. (2019) The workforce education course highlights characteristics of students with disabilities and identifies potential curriculum modifications for Career and Technical Education classes. Inclusion of Students with Special Needs: Grades 6-12 covers a broad overview of the IEP process, those involved, modifications, and causes and characteristics of students with disabilities. It would be beneficial for the undergraduate to be required to take both courses. A second proposal would be the development of a course specifically for the inclusion of students with disabilities in the agriculture program. This course could discuss inclusion methods for the three-ring model, in classroom instruction, FFA, and SAEs. Being taught area specific inclusion strategies could help increase the competency and importance levels perceived by agriculture teachers.

Each agricultural education student seeking certification must undergo an apprenticeship, or “student-teaching.” Student teaching allows for future teachers to essentially practice before

entering their own classroom. Students are allowed to learn from their mentor teachers in a safe, learning environment while gaining vital hands-on experiences. During this process, depending on the school, some student teachers may have more opportunities than others to gain experience working with students with disabilities in the agriculture program. A recommendation would be to develop an assignment during student teaching where student teacher must work closely with the special education department of their apprentice school. This could be in the form of attending IEP meetings, working with the mentor teacher in creating modifications or accommodations, having the student teacher shadow a special education teacher for a few days or week, or asking the student teacher to work with the case manager to break down each student's IEP to form an understanding of each section and its requirements.

Twice a year, Georgia SBAE teachers meet at their annual conference, the Georgia Vocational Agriculture Teacher Association (GVATA) conference. During these conferences, teachers are asked to participate in professional learning opportunities to expand on their knowledge and skills. A very popular professional learning approach is a round table discussion. Providing a professional learning opportunity in the form of a round table discussion for teachers to learn from one another about inclusion strategies would be very beneficial for SBAE teachers in Georgia. Teachers can share what they have seen success in and what may have failed for them. Learning from others success and failures may have more resonation than simply reading about the latest strategies in an article.

Recommendations for Future Research

The results of this study successfully met the objectives guiding the study. Deeper understanding of the results and ways to meet the needs of these teachers can be accomplished through advancement of the research in the areas of preservice studies, special education

partnership with agricultural education, identifying barriers to inclusion, and how to increase the numbers of students with disabilities in SAEs.

Developing a study that focuses on what is being taught in the area of special education at the university level for agricultural education majors is one way to further this research. This mixed method approach can analyze both the professor's point of view as well as the students. The study should take place at the end of the student's student teaching placement. The study should evaluate what classes were taught regarding special education, the amount of time, topics covered, etc. Upon completion of student teaching, the student can evaluate how those classes helped or did not help the student in their placement. The study can also identify if the student feels there are any other needs in terms of special education. Evaluating the major professors can also give insight on what is being taught and the reasoning behind the selection of what topics are covered in the course(s). Cross referencing both the professor and the student's responses can identify if there is a gap in what is being taught and what is being needed as identified by the student. This study could also be further expanded to after the student has completed their first full year teaching agricultural education.

One recommended practice for successful inclusion is communication between agricultural education teachers and the special education department. A study could be conducted diving deeper into the understanding of IEPs by agriculture teachers as well as determining the level of understand that the special education department has of an agricultural education program. A qualitative or quantitative study can determine which areas both departments need further training in. This study can help bridge the gap between special education and agricultural education. This in turn will help the agriculture teacher better integrate students with disabilities in their programs with the support and guidance of the special

education department. Findings from this study can also lead to potential school-based or statewide professional learning sessions.

The results of this study concluded that further training in the inclusion of students with disabilities is needed for both pre-service and in-service agriculture teachers. The need for further training is a contributing factor of why agriculture teachers have a lower level of competency when it comes to inclusion of students with disabilities in the agriculture classroom. Successful agriculture programs start in the agriculture classroom. If a teacher struggles with the inclusion of students with disabilities in the agriculture classroom, there is a higher chance of the other two components of the three-ring model also lacking competency. In addition to needing further training, what other restrictions do teachers contribute to their lower levels of competency? Future qualitative or quantitative research can examine what agricultural educators identify as a contributing factor to their lower competence levels of working with students with disabilities in the agriculture classroom. Questions related to the topic are, is it a lack various supports in the school system? Is it the stress of the continual addition of expectations from the state or school system? Is it the wide variation of challenges associated to each individual student? Many other questions could be addressed to help determine factors causing lower competency.

This study reported that less than 25% of students with disabilities are placed in SAE programs in the state of Georgia. When examining the lower levels of inclusion with supervised agricultural experiences, there have been previous studies in other states such as North Carolina and New Mexico that have researched potential barriers of the inclusion of students with disabilities in Supervised Agricultural Experiences. Georgia SBAE teachers could benefit from a study conducted examining perceived barriers of the inclusion of students with disabilities in

SAEs in this state. This qualitative or quantitative study could lead to more pre-service and in-service training or professional development.

Chapter Summary

Chapter five further exams the results from Chapter 4 and reports conclusions from analyzing the data. The findings of this study showed that Georgia School-Based Agriculture Education teachers perceived they had low competency across all constructs when working with students with disabilities in the agriculture classroom and in SAEs. In teacher preparation courses for agriculture educators, teachers are taught that agricultural education is built upon the idea that students learn through their experiences. This is no different once the student becomes the teacher. Agriculture teachers should strive to continue their education in special education to increase their competency levels in the classroom and SAE projects. In addition, it is vital that universities evaluate the special education courses provided for agricultural education teachers in order to meet their needs. The population of students with disabilities placed in the agriculture program is continuing to increase, therefore teacher competency in inclusion is vital for student and program success.

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Revised 02/01/2022

AUBURN UNIVERSITY HUMAN RESEARCH PROTECTION PROGRAM (HRPP)

EXEMPT REVIEW APPLICATION

For assistance, contact: **The Office of Research Compliance (ORC)**
Phone: **334-844-5966** E-Mail: **IRBAdmin@auburn.edu** Web Address: **http://www.auburn.edu/research/vpr/ohs**
Submit completed form and supporting materials as one PDF through the IRB Submission Page
Hand written forms are not accepted. Where links are found hold down the control button (Ctrl) then click the link..

1. Project Identification **Today's Date: November 2, 2022**

Anticipated start date of the project: December 1, 2022 Anticipated duration of project: 1 Year

a. **Project Title: The Georgia Secondary Agricultural Education Teacher's Perception of the inclusion of Special Education Students and Supervised Agricultural Experiences**

b. **Principal Investigator (PI): Devin Smith** Degree(s): AAS, BS, MAEE, SEd
Rank/Title: Doctoral Candidate Department/School: Curriculum and Teaching, College of Education
Role/responsibilities in this project: The principal investigator is responsible for developing the manuscript.
Preferred Phone Number: 229-322-3072 AU Email: dns0021@auburn.edu

Faculty Advisor Principal Investigator (if applicable): Christopher Clemons
Rank/Title: Associate Professor Department/School: Curriculum and Teaching
Role/responsibilities in this project: Serves as the major advisor.
Preferred Phone Number: (334) 844-4434 AU Email: cac0132@auburn.edu

Department Head: Paul Fitchett Department/School: Curriculum and Teaching
Preferred Phone Number: (334) 844-4434 AU Email: pgf0011@auburn.edu
Role/responsibilities in this project:

c. **Project Key Personnel –** Identify all key personnel who will be involved with the conduct of the research and describe their role in the project. Role may include design, recruitment, consent process, data collection, data analysis, and reporting. (To determine key personnel, see decision tree**).** *Exempt determinations are made by individual institutions; reliance on other institutions for exempt determination is not feasible. Non-AU personnel conducting exempt research activities must obtain approval from the IRB at their home institution.*

Key personnel are required to maintain human subjects training through CITI. Only for EXEMPT level research is documentation of completed CITI training NO LONGER REQUIRED to be included in the submission packet. NOTE however, **the IRB will perform random audits of CITI training records to confirm** reported training courses and expiration dates. Course title and expiration dates are shown on training certificates.

Name: Devin Smith Degree(s): AAS, BS, MAEE, SEd
Rank/Title: Doctoral Candidate Department/School: Curriculum and Development
Role/responsibilities in this project: Responsible for developing the manuscript, recruiting participants, consenting and answering participant questions, and analyzing data.

- AU affiliated? ☒ Yes ☐ No If no, name of home institution:
- Plan for IRB approval for non-AU affiliated personnel?
- Do you have any known competing financial interests, personal relationships, or other interests that could have influence or appear to have influence on the work conducted in this project? ☐ Yes ☒ No
- If yes, briefly describe the potential or real conflict of interest:
- Completed required CITI training? ☒ Yes ☐ No If NO, complete the appropriate CITI basic course and update the revised Exempt Application form.
- If YES, choose course(s) the researcher has completed:

The Auburn University Institutional Review Board has approved this Document for use from
11/01/2022 to ----------
Protocol # 22-488 EX 2211

Research in Public Elementary and Secondary Schools - SBE 10/8/2025
IRB # 2 Social and Behavioral Emphasis - AU Personnel 6/5/2025
Internet Research – SBE 10/8/2025
AU Basic RCR Training for ALL Faculty, Staff, Postdocs, and Students 10/8/2025

Name: Chris Clemons Degree(s): **Ph.D., Ed.S.**
Rank/Title: Associate Professor Department/School: Curriculum and Teaching
Role/responsibilities in this project: Serves as supervisor for the study and is responsible for all aspects of student led research
- AU affiliated? ☒ Yes ☐ No If no, name of home institution: Click or tap here to enter text.
- Plan for IRB approval for non-AU affiliated personnel? Click or tap here to enter text.
- Do you have any known competing financial interests, personal relationships, or other interests that could have influence or appear to have influence on the work conducted in this project? ☐ Yes ☒ No
- If yes, briefly describe the potential or real conflict of interest: Click or tap here to enter text.
- Completed required CITI training? ☒ Yes ☐ No If NO, complete the appropriate CITI basic course and update the revised EXEMPT application form.
- If YES, choose course(s) the researcher has completed: Human Sciences Basic Course Expiration Date
  Choose a course Expiration Date

Name: Click or tap here to enter text. Degree(s): Click or tap here to enter text.
Rank/Title: Choose Rank/Title Department/School: Choose Department/School
Role/responsibilities in this project: Click or tap here to enter text.
- AU affiliated? ☐ Yes ☐ No If no, name of home institution: Click or tap here to enter text.
- Plan for IRB approval for non-AU affiliated personnel? Click or tap here to enter text.
- Do you have any known competing financial interests, personal relationships, or other interests that could have influence or appear to have influence on the work conducted in this project? ☐ Yes ☐ No
- If yes, briefly describe the potential or real conflict of interest: Click or tap here to enter text.
- Completed required CITI training? ☐ Yes ☐ No If NO, complete the appropriate CITI basic course and update the revised EXEMPT application form.
- If YES, choose course(s) the researcher has completed: Choose a course Expiration Date
  Choose a course Expiration Date

d. Funding Source – Is this project funded by the investigator(s)? Yes ☒ No ☐
Is this project funded by AU? Yes ☐ No ☒ If YES, identify source
Is this project funded by an external sponsor? Yes ☐ No ☒ If YES, provide name of sponsor, type of sponsor (governmental, non-profit, corporate, other), and an identification number for the award.
Name: Type: Grant #:

e. List other AU IRB-approved research projects and/or IRB approvals from other institutions that are associated with this project. Describe the association between this project and the listed project(s):
N/A

2. Project Summary

a. Does the study *TARGET* any special populations? Answer YES or NO to all.

Minors (under 18 years of age; if minor participants, at least 2 adults must be present during all research procedures that include the minors)	Yes ☐ No ☒
Auburn University Students	Yes ☐ No ☒
Pregnant women, fetuses, or any products of conception	Yes ☐ No ☒
Prisoners or wards (unless incidental, not allowed for Exempt research)	Yes ☐ No ☒

Temporarily or permanently impaired Yes ☐ No ☒

b. Does the research pose more than minimal risk to participants? Yes ☐ No ☒

If YES, to question 2.b, then the research activity is NOT eligible for EXEMPT review. Minimal risk means that the probability and magnitude of harm or discomfort anticipated in the research is not greater in and of themselves than those ordinarily encountered in daily life or during the performance of routine physical or psychological examinations or test. 42 CFR 46.102(i)

c. Does the study involve any of the following? *If YES to any of the questions in item 2.c, then the research activity is NOT eligible for EXEMPT review.*

Procedures subject to FDA regulations (drugs, devices, etc.) Yes ☐ No ☒

Use of school records of identifiable students or information from instructors about specific students. Yes ☐ No ☒

Protected health or medical information when there is a direct or indirect link which could identify the participant. Yes ☐ No ☒

Collection of sensitive aspects of the participant's own behavior, such as illegal conduct, drug use, sexual behavior or alcohol use. Yes ☐ No ☒

d. Does the study include deception? Requires limited review by the IRB* Yes ☐ No ☒

3. MARK the category or categories below that describe the proposed research. Note the IRB Reviewer will make the final determination of the eligible category or categories.

☒ **1.** Research conducted in established or commonly accepted educational settings, involving normal educational practices. The research is not likely to adversely impact students' opportunity to learn or assessment of educators providing instruction. 104(d)(1)

☒ **2.** Research only includes interactions involving educational tests, surveys, interviews, public observation if at least ONE of the following criteria. (The research includes data collection only; may include visual or auditory recording; may NOT include intervention and only includes interactions). **Mark the applicable sub-category below (I, ii, or iii). 104(d)(2)**

☒ **(i)** Recorded information cannot readily identify the participant (directly or indirectly/ linked);
OR
- surveys and interviews: no children;
- educational tests or observation of public behavior: can only include children when investigators do not participate in activities being observed.

☐ **(ii)** Any disclosures of responses outside would not reasonably place participant at risk; **OR**

☐ **(iii)** Information is recorded with identifiers or code linked to identifiers and IRB conducts limited review; no children. **Requires limited review by the IRB.***

☐ **3.** Research involving Benign Behavioral Interventions (BBI)** through verbal, written responses including data entry or audiovisual recording from adult subjects who prospectively agree and ONE of the following criteria is met. (This research does not include children and does not include medical interventions. Research cannot have deception unless the participant prospectively agrees that they will be unaware of or misled regarding the nature and purpose of the research) **Mark the applicable sub-category below (A, B, or C).** 104(d)(3)(i)

☐ **(A)** Recorded information cannot readily identify the subject (directly or indirectly/ linked); **OR**

☐ **(B)** Any disclosure of responses outside of the research would not reasonably place subject at risk;
OR

☐ **(C)** Information is recorded with identifies and cannot have deception unless participants prospectively agree.
Requires limited review by the IRB.*

☐ **4.** Secondary research for which consent is not required: use of identifiable information or identifiable bio-specimen that have been or will be collected for some other 'primary' or 'initial' activity, if one of the following criteria is met. Allows retrospective and prospective secondary use. **Mark the applicable sub-category below (i, ii, iii, or iv).** 104 (d)(4)

☐ **(i)** Bio-specimens or information are publicly available;

☐ **(ii)** Information recorded so subject cannot readily be identified, directly or indirectly/linked investigator does not contact subjects and will not re-identify the subjects; **OR**

☐ **(iii)** Collection and analysis involving investigators use of identifiable health information when us is regulated by HIPAA "health care operations" or "research" or "public health activities and purposes" (does not include bio-specimens (only PHI and requires federal guidance on how to apply); **OR**

☐ **(iv)** Research information collected by or on behalf of federal government using government generated or collected information obtained for non-research activities.

☐ **5.** Research and demonstration projects which are supported by a federal agency/department AND designed to study and which are designed to study, evaluate, or otherwise examine: (i)public benefit or service programs; (ii) procedures for obtaining benefits or services under those programs; (iii) possible changes in or alternatives to those programs or procedures; or (iv) possible changes in methods or levels of payment for benefits or service under those programs. (must be posted on a federal web site). 104.5(d)(5) (must be posted on a federal web site)

☐ **6.** Taste and food quality evaluation and consumer acceptance studies, (i) if wholesome foods without additives and consumed or (ii) if a food is consumed that contains a food ingredient at or below the level and for a use found to be safe, or agricultural chemical or environmental contaminant at or below the level found to be safe, by the Food and Drug Administration or approved by the Environmental Protection Agency or the Food Safety and Inspection Service of the U.S. Department of Agriculture. The research does not involve prisoners as participants. 104(d)(6)

**Limited IRB review – the IRB Chair or designated IRB reviewer reviews the protocol to ensure adequate provisions are in place to protect privacy and confidentiality.*

***Category 3 – Benign Behavioral Interventions (BBI) must be brief in duration, painless/harmless, not physically invasive, not likely to have a significant adverse lasting impact on participants, and it is unlikely participants will find the interventions offensive or embarrassing.*

**** Exemption categories 7 and 8 require broad consent. The AU IRB has determined the regulatory requirements for legally effective broad consent are not feasible within the current institutional infrastructure. EXEMPT categories 7 and 8 will not be implemented at this time.*

4. Describe the proposed research including who does what, when, where, how, and for how long, etc.

a. Purpose

This research study seeks to investigate the Georgia secondary agricultural education teacher's perception of the inclusion of special needs students in the agriculture classroom and Supervised Agricultural Experiences.

b. Participant population, including the number of participants and the rationale for determining number of participants to recruit and enroll. Note if the study enrolls minor participants, describe the process to ensure more than 1 adult is present during all research procedures which include the minor.

Participants will be randomly selected using a publicly available database found on the Georgia Agricultural Education Website. The database, which is a teacher directory, provides the agriculture educator's contact information. Strata for selection include currently teaching secondary agricultural education and advising Supervised Agricultural Experiences. As this is a randomly stratified sample gender, race, and ethnicity are outside the parameters of selection to participate. The population of high school agricultural education teachers is 407. Using the Krejcie and Morgan sample size calculator, the sample will include up to 198 Georgia high school agriculture educators. All participants will be over the age of 19. The time frame that the study will be available on Qualtrics for participants to participate will be two weeks.

c. Recruitment process. Address whether recruitment includes communications/interactions between study staff and potential participants either in person or online. *Submit a copy of all recruitment materials.*

Participants will be contacted by email from the PI in the form of email recruitment in the study. A participant can click the survey link to participate or decline by ignoring the invitation. There will be no follow up recruitment such as reminders to complete the study being sent to the participant.

d. Consent process including how information is presented to participants, etc.

If a participant selects the participation link the Online Information Letter for Electronic Survey will be presented within Qualtrics. Information presented to participants will follow IRB protocols as found in the informed consent. The PI and Faculty Advisor are both available to answer participant questions and all contact information is provided on the Online Information Letter.

e. Research procedures and methodology

The proposed study will be a descriptive correlational, quantitative study. The instrument uses a combination of closed-ended descriptive questioning and a Borich scale. Content validity was determined by a panel of experts including 4 professors from Auburn University. Reliability of the instrument is determined using the test-retest method. The instrument used for this study is a questionnaire administered online via Qualtrics. Participants will be chosen using stratified random sampling.

f. Anticipated time per study exercise/activity and total time if participants complete all study activities.

The research instrument should take the participant approximately 10 minutes to complete and will be live for two weeks.

g. Location of the research activities.

The online platform Qualtrics will be used to collect participant responses.

h. Costs to and compensation for participants? If participants will be compensated describe the amount, type, and process to distribute.

There is no cost or compensation for the participants of this study.

i. Non-AU locations, site, institutions. *Submit a copy of agreements/IRB approvals.*

Click or tap here to enter text.

j. Additional relevant information.
Click or tap here to enter text.

5. Waivers
Check applicable waivers and describe how the project meets the criteria for the waiver.

☐ Waiver of Consent (Including existing de-identified data)

☒ Waiver of Documentation of Consent (Use of Information Letter, rather than consent form requiring signatures)

☐ Waiver of Parental Permission (in Alabama, 18 years-olds may be considered adults for research purposes)
https://sites.auburn.edu/admin/orc/irb/IRB 1 Exempt and Expedited/11-113 MR 1104 Hinton Renewal 2021-1.pdf

a. Provide the rationale for the waiver request.
The Online Informational Letter for Electronic Survey will detail the particulars of the study, recruitment information, anonymity in response, data analysis, and details of the completed study.

6. Describe the process to select participants/data/specimens. If applicable, include gender, race, and ethnicity of the participant population.

Participants will be randomly selected using publicly available databases on the Georgia Agricultural Education website. The publicly available database, or Teacher Directory, contains the teacher's contact information. Strata for selection include currently teaching secondary agriculture education and advising Supervised Agricultural Experiences. As this is a randomly stratified sample gender, race, and ethnicity are outside the parameters of selection to participate.

7. Risks and Benefits

7a. Risks - Describe why none of the research procedures would cause a participant either physical or psychological discomfort or be perceived as discomfort above and beyond what the person would experience in daily life (minimal risk).

This research is being conducted online using Qualtrics. Participants will be informed of their participation and opportunity to cease participation at any time using the Online Informational Letter for Electronic Survey. There are no anticipated risks for participating in the study.

7b. Benefits – Describe whether participants will benefit directly from participating in the study. If yes, describe the benefit. And, describe generalizable benefits resulting from the study.

The participant can expect to better understand individual needs and best practices for the inclusion of special education students in agriculture classrooms and Supervised Agricultural Experiences as well as potential placement for special needs students in Supervised Agricultural Experiences. This study consist of no further risks or benefits experienced in everyday life. Benefits to others may include published data indicating the results of this study. The published data and information can serve as a benefit by leading to possible in-service training classes or more pre-service training in the area of Special Education and Supervised Agricultural Experiences.

8. Describe the provisions to maintain confidentiality of data, including collection, transmission, and storage. Identify platforms used to collect and store study data. *For EXEMPT research, the AU IRB recommends AU BOX or using an AU issued and encrypted device. If a data collection form will be used, submit a copy.*

Storage of data will be maintained using the AU Box which is an encrypted file storage service. All responses to the instrument, collected, and analyzed data are also stored behind a password protected computer.

a. If applicable, submit a copy of the data management plan or data use agreement.

9. Describe the provisions included in the research to protect the privacy interests of participants (e.g., others will not overhear conversations with potential participants, individuals will not be publicly identified or embarrassed).

No identifiable information will be asked or collected by the researchers. Participants will receive the survey link and email recruitment and only required to agree or not agree to participate.

10. Does this research include purchase(s) that involve technology hardware, software or online services?

☐ **YES** ☒ **NO**

If YES:

A. Provide the name of the product and the manufacturer of the product

B. Briefly describe use of the product in the proposed human subject's research.

C. To ensure compliance with AU's Electronic and Information Technology Accessibility Policy, contact AU IT Vendor Vetting team at vetting@auburn.edu to learn the vendor registration process (prior to completing the purchase).

D. Include a copy of the documentation of the approval from AU Vetting with the revised submission.

11. Additional Information and/or attachments.

In the space below, provide any additional information you believe may help the IRB review of the proposed research. If attachments are included, list the attachments below. Attachments may include recruitment materials, consent documents, site permissions, IRB approvals from other institutions, data use agreements, data collection form, CITI training documentation, etc.

Email Recruitment, Online Informational Letter for Electronic Survey, CITI Training Certificates, and Sample Questionnaire

Revised 02/01/2022

Required Signatures *(If a student PI is identified in item 1.a, the EXEMPT application must be re-signed and updated at every revision by the student PI and faculty advisor. The signature of the department head is required only on the initial submission of the EXEMPT application, regardless of PI. Staff and faculty PI submissions require the PI signature on all version, the department head signature on the original submission)*

Signature of Principal Investigator: _____ **Date:** November 2, 2022

Signature of Faculty Advisor (If applicable) _____ **Date:** November 2, 2022

Signature of Dept. Head: _____ **Date:** November 2, 2022

Version Date: 11/2/2022

AUBURN UNIVERSITY

COLLEGE OF EDUCATION

CURRICULUM AND TEACHING

The Georgia Secondary Agricultural Education Teacher's Perception of the inclusion of Special Education Students and Supervised Agricultural Experiences

You are invited to participate in a research study to *investigate the Georgia secondary agricultural education teacher's perception of the inclusion of students with special needs in the classroom as well as Supervised Agricultural Experiences.* The study is being conducted by Doctoral Candidate, *Devin Smith*, in the Agriscience Education Program and Dr. Chris Clemons, Associate Professor of Agriscience Education at Auburn University. You are invited to participate because you are *a practicing secondary agricultural education teacher in the state of Georgia.* and are age *19* or older.

What will be involved if you participate? Your participation is completely voluntary. If you decide to participate in this research study, you will be asked to complete an anonymous item response survey. The nature of the questions will help us understand your perception of the inclusion of special education students in the agriculture classroom and Supervised Agricultural Experiences. Your total time commitment will be approximately ten minutes.

Are there any risks or discomforts? The risks associated with participating in this study are a potential loss of anonymity. To minimize these risks, we will NOT collect any personably identifiable information.

Are there any benefits to yourself or others? If you participate in this study, you can expect to better understand individual needs and best practices for the inclusion of special education students in agriculture classrooms and Supervised Agricultural Experiences as well as potential placement for special needs students in Supervised Agricultural Experiences. You will not directly benefit from participating in this research study. Benefits to others may include published data indicating the results of this study.

Will you receive compensation for participating? No compensation will be provided.

If you change your mind about participating, you can withdraw at any time by deleting the email invitation, selecting your option of not participating, or closing your browser window at any time. Once you've submitted anonymous data, it cannot be withdrawn since it will be unidentifiable. Your decision about whether

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to participate or to stop participating will not jeopardize your future relations with Auburn University, the College of Education, or Agriscience Education

Any data obtained in connection with this study will remain anonymous. We will protect your privacy and the data you provide by not collecting identifiable information. Information collected through your participation may be used for manuscript submission or disseminated at professional conferences.
If you have questions about this study, please contact Devin Smith at (229-322-3072) dns0021@auburn.edu or Dr. Christopher Clemons (334-844-4411) cac0132@auburn.edu.

If you have questions about your rights as a research participant, you may contact the Auburn University Office of Research Compliance or the Institutional Review Board by phone (334) 844-5966 or e-mail at IRBadmin@auburn.edu or IRBChair@auburn.edu.

HAVING READ THE INFORMATION ABOVE, YOU MUST DECIDE IF YOU WANT TO PARTICIPATE IN THIS RESEARCH PROJECT. IF YOU DECIDE TO PARTICIPATE, PLEASE CLICK ON THE LINK BELOW.
YOU MAY PRINT A COPY OF THIS LETTER TO KEEP.

Date: 11/2/2022

Devin N. Smith
Investigator
Doctoral Candidate
Auburn University
Agriscience Education.
229-322-3072
Dns0021@auburn.edu

Dr. Christopher Clemons
Associate Professor
Auburn University
College of Education
Curriculum and Teaching
334-844-4411
chrisclemons@auburn.edu

The Auburn University Institutional Review Board has approved this document for use from _____ to _____. Protocol #_____

LINK TO SURVEY

5040 Haley Cent
er Auburn
University, AL
36849-5212

Telephone:
334-844-
4434
Fax:
334-844-6789

auburn.edu

E-MAIL INVITATION FOR ON-LINE SURVEY

Dear Secondary Agricultural Education Teacher,

I am a Doctoral Candidate in Agriscience Education at Auburn University. I would like to invite you to participate in my research study to investigate your perception of the inclusion of special education students in the high school agriculture classroom and Supervised Agricultural Experiences. You may participate if you are a practicing high school agricultural education teacher in the state of Georgia.

Participants will be asked to complete an item response survey requiring ten minutes of your time.

To mitigate risk potential your personally identifiable information will not be collected. No compensation will be provided and benefits include developing an improved understanding of the inclusion of special needs students in your classrooms and Supervised Agricultural experiences.

If you would like to know more information about this study, an information letter can be obtained by selecting this link. If you decide to participate after reading the letter, you can access the survey from a link in the letter.

If you have any questions, please contact me at 229-322-3072, dns0021@auburn.edu or Dr. Chris Clemons at 334-844-4411, chrisclemons@auburn.edu.

Thank you for your consideration,

Devin Smith
Doctoral Candidate
Auburn University
Dns0021@auburn.edu
229-322-3072

Chris Clemons, Ph.D.
Associate Professor
Auburn University
chrisclemons@auburn.edu
334-844-4411

Devin Smith

The Georgia Secondary Agricultural Education Teacher's Perception of the Inclusion of Special Education Students and Supervised Agricultural Experiences

**This survey should take approximately 10 minutes to complete. ** This research study seeks to investigate the Georgia secondary agricultural education teacher's perception of the inclusion of special needs students in the agriculture classroom and Supervised Agricultural Experiences. We hope you will take a moment to complete the survey. Your participation is voluntary, and you may stop participating at any time. Your personal identifiable information will not be collected, and all responses are anonymous. Please do not hesitate to contact Devin Smith or Ph.D. Chair, Dr. Clemons if you have any questions about this research project. For further information, click the "Informed Consent" link below.
Informed Consent

This survey should take approximately 10 minutes to complete.

Thank you!

Devin Smith Ph.D. Candidate Agriscience Education Auburn University 229-322-3072, dns0021@auburn.edu

Christopher A. Clemons, Ph.D. Associate Professor Agriscience Education Auburn University 334-844-4411, chrisclemons@auburn.edu

Directions: For each statement below (Section 0ne – Section Three) please select your perceived level of importance (1 = Not important, 2 = Of little importance, 3 = Somewhat important, 4 = Important, 5 = Very Important) and competence (1 = Not competent, 2 = Less competent, 3 = Somewhat competent, 4 = Competent, 5 = Very competent).

Section One: Determine the level of importance and competence of utilizing Individualized Education Plans as perceived by secondary agricultural education teachers in Georgia

Level of Importance						Level of Competence				
NI 1	OLI 2	SI 3	I 4	VI 5		NC 1	LC 2	SC 3	C 4	VC 5
					1. Locating your caseloads through a secure online platform					
					2. Locating each individual student's Individualized Education Plan on a secure online platform					
					3. Thoroughly reading a student's Individualized Education Plan					
					4. Understanding the definition of the students' Primary Area of Disability					
					5. Referencing the Georgia Department of Education's Special Education Services and Supports online web page					
					6. Locating the "Student Supports" section in an Individualized Education Plan					
					7. Implementing the student's Individualized Education Plan Supports in the agriculture classroom					
					8. Locating the student's "Transition Service Plan" section of the Individualized Education Plan					
					9. Using a student's Transition Service Plan when planning a SAE					
					10. Providing proper Inclusion of students with special needs in the agriculture					

					classroom based on their Individualized Education Plan					
					11. Being familiar with the laws that apply to special needs students					
					12. Participating in a students' Individualized Education Plan conference					
					13. The ability to decipher between an accommodation and a modification					
					14. Develop curriculum for students with special needs based on their Individualized Education Plan					
					15. Informing Special Education teachers about the classes you provide					
					16. Informing Special Education Teacher's about the progress of the student with Special Needs					
					17. Collaborating with Special Education Teacher's to develop curriculum based on a student's needs					
					18. Understanding the concept of Inclusion					

Section Two: Determine the perceived importance and competency of secondary agricultural education teachers in Georgia when implementing best management practices to include students with special needs in the classroom and SAEs.

2a. best practices in the classroom.

Level of Importance						Level of Competence				
NI 1	OLI 2	SI 3	I 4	VI 5		NC 1	LC 2	SC 3	C 4	VC 5

					1. Teachers should practice breaking down instructions or tasks for students with special needs in the agriculture classroom					
					2. Teachers should practice providing stimulation for students with special needs in the agriculture classroom					
					3. Teachers should practice managing the classroom environment for students with special needs in the agriculture classroom					
					4. Teachers should practice providing positive reinforcement for students with special needs in the agriculture classroom					
					5. Teachers should practice providing additional time for students with special needs to complete a task in the agriculture classroom					
					6. Teachers should practice individualized instruction for students with special needs in the agriculture classroom					
					7. Teachers should practice providing a positive learning atmosphere for students with special needs in the agriculture classroom					
					8. Teachers should modify their testing or evaluation process for students with special needs in the agriculture classroom					
					9. Teachers should practice emphasizing hands-on learning for students with special needs in the agriculture classroom					
					10. Teachers should practice providing an alternative rubric for students with special needs in the agriculture classroom					

					11. Teachers should practice shortening assignments for students with special needs in the agriculture classroom					
					12. Teachers should practice oral examinations for students with special needs in the agriculture classroom					

2b. best practices for Supervised Agricultural Experiences.

Level of Importance						Level of Competence				
NI 1	OLI 2	SI 3	I 4	VI 5		NC 1	LC 2	SC 3	C 4	VC 5
					1. Teachers should practice breaking down instructions or tasks for students with special needs placed in a Supervised Agricultural Experience					
					2. Teachers should practice providing stimulation for students with special needs placed in a Supervised Agricultural Experience					
					3. Teachers should practice managing the working environment for students with special needs placed in a Supervised Agricultural Experience					
					4. Teachers should practice providing positive reinforcement for students with special needs placed in a Supervised Agricultural Experience					
					5. Teachers should practice providing additional time for students with special needs placed in a Supervised Agricultural Experience					

					6. Teachers should practice individualized instruction for students with special needs placed in a Supervised Agricultural Experience					
					7. Teachers should practice providing a positive learning atmosphere for students with special needs placed in a Supervised Agricultural Experience					
					8. Teachers should modify their evaluation process for students with special needs placed in a Supervised Agricultural Experience					
					9. Teachers should practice emphasizing hands-on learning for students with special needs placed in a Supervised Agricultural Experience					
					10. Teachers should practice providing an alternative rubric for students with special needs placed in a Supervised Agricultural Experience					
					11. Teachers should practice shortening assignments for students with special needs placed in a Supervised Agricultural Experience					
					12. Teachers should practice oral examination for students with special needs placed in a Supervised Agricultural Experience					

Section Three: Determine the perceived importance and competency of secondary agricultural education teachers in Georgia when including students with special needs in the agriculture classroom and Supervised Agricultural Experience based on eligibility categories.

3a. implementing strategies based on eligibility categories.

Level of Importance						Level of Competence				
NI 1	OLI 2	SI 3	I 4	VI 5		NC 1	LC 2	SC 3	C 4	VC 5
					1. Implementing strategies to benefit students with Emotional Behavioral Disorders					
					2. Implementing strategies to benefit students with Other Health Impairments					
					3. Implementing strategies to benefit students with Specific Learning Disabilities					
					4. Implementing strategies to benefit students with Autism					
					5. Implementing strategies to benefit students who are Deafblind					
					6. Implementing strategies to benefit students who are Deaf/Hard of Hearing					
					7. Implementing strategies to benefit students with Intellectual Disabilities					
					8. Implementing strategies to benefit students with Orthopedic Impairments					
					9. Implementing strategies to benefit students with Significant Developmental Delays					
					10. Implementing strategies to benefit students with Speech-Language Impairments					
					11. Implementing strategies to benefit students with Traumatic Brain Injuries					

					12. Implementing strategies to benefit students with Visual Impairment and Blindness					

3b. developing instruction based on eligibility categories.

Level of Importance						Level of Competence				
NI 1	OLI 2	SI 3	I 4	VI 5		NC 1	LC 2	SC 3	C 4	VC 5
					1. Developing instruction for students with Emotional Behavioral Disorders in the agricultural education classroom					
					2. Developing instruction for students with Other Health Impairments in the agricultural education classroom					
					3. Developing instruction for students with Specific Learning Disabilities in the agricultural education classroom					
					4. Developing instruction for students with Autism in the agricultural education classroom					
					5. Developing instruction for students who are Deafblind in the agricultural education classroom					
					6. Developing instruction for students with Deaf/Hard of Hearing in the agricultural education classroom					
					7. Developing instruction for students with Intellectual Disabilities in the agricultural education classroom					

					8. Developing instruction for students with Orthopedic Impairments in the agricultural education classroom					
					9. Developing instruction for students with Significant Developmental Delays in the agricultural education classroom					
					10. Developing instruction for students with Speech-Language Impairments in the agricultural education classroom					
					11. Developing instruction for students with Traumatic Brain Injuries in the agricultural education classroom					
					12. Developing instruction for students with Visual Impairment and Blindness in the agricultural education classroom					

3c. advising students placed in Supervised Agricultural Experiences based on eligibility categories.

Level of Importance						Level of Competence				
NI 1	OLI 2	SI 3	I 4	VI 5		NC 1	LC 2	SC 3	C 4	VC 5
					1. Advising students with Emotional Behavioral Disorders in Supervised Agricultural Experiences					
					2. Advising students with Other Health Impairments in Supervised Agricultural Experiences					
					3. Advising students with Specific Learning Disabilities in Supervised Agricultural Experiences					
					4. Advising students with Autism in Supervised Agricultural Experiences					

					5. Advising students who are Deafblind in the Supervised Agricultural Experiences					
					6. Advising students with Deaf/Hard of Hearing in Supervised Agricultural Experiences					
					7. Advising students with *Intellectual* Disabilities in Supervised Agricultural Experiences					
					8. Advising students with Orthopedic Impairments in Supervised Agricultural Experiences					
					9. Advising students with Significant Developmental Delays in Supervised Agricultural Experiences					
					10. Advising students with Speech-Language Impairments in supervised Agricultural Experiences					
					11. Advising students with Traumatic Brain Injuries in Supervised Agricultural Experiences					
					12. Advising students with Visual Impairment and Blindness in Supervised Agricultural Experiences					

Directions: Please answer the following questions to the best of your ability.

Section Four: Identify changes in the inclusion of special needs students in the agricultural education classroom as observed by secondary agriculture education teachers in Georgia.

1. Throughout your agricultural education teaching career, what changes have you observed regarding students with Individualized Education Plans (IEPS) in the agriculture classroom?

2. In the space below, list the courses you teach and the number of students with an Individualized Education Plan (IEP) in each class:

Section Five: Describe the population of special education students participating in Supervised Agricultural Experiences by SAE type and Category.

1. Approximately how many total students are enrolled in your agricultural education courses for the 2022-2023 school year? (Whole Number)

2. Approximately how many students with special needs are enrolled in your agricultural education courses for the 2022-2023 school year? (Whole Number)

3. Approximately what percentage of students with special needs are currently placed in a Supervised Agricultural Experience?

Section Six: Determine the personal characteristics of secondary agricultural education teachers in Georgia.

1. Highest degree completed as of 2022:
    a. Bachelors
    b. Masters
    c. Specialist
    d. Doctoral
    e. Other

2. Which option below best describes your teacher preparation?
    a. A traditional 4-year teacher education program (college or university)
    b. Alternative certification
    c. Other

3. Including this year, how long have you been teaching? (Whole number)

4. My teacher education program (traditional or alternative)…
    a. Included one or more courses devoted specifically to working with students with special needs.
    b. Included a section of time within a course that was devoted to working with students with special needs.
    c. No training at all

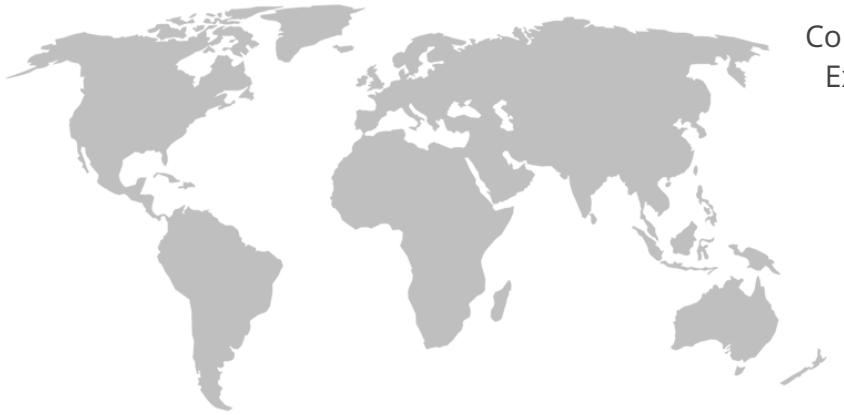
5. How much Inservice training have you participated in related to teaching students with special needs through your school, school systems, professional organizations, teacher conferences, etc.? (Number of hours i.e. 20)

6. What is your gender?

7. What is your age? (In years, whole number)

8. What Region do you teach in?
    a. North
    b. Central
    c. South

CITI PROGRAM



Completion Date 09-Oct-2022
Expiration Date 08-Oct-2025
Record ID 50323400

This is to certify that:

devin smith

Not valid for renewal of certification through CME.

Has completed the following CITI Program course:

Responsible Conduct of Research
(Curriculum Group)
AU Basic RCR Training for ALL Faculty, Staff, Postdocs, and Students
(Course Learner Group)
1 - RCR
(Stage)

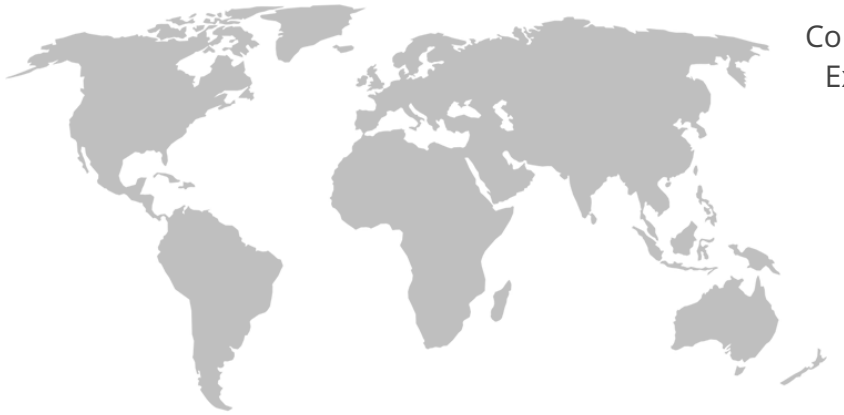
Under requirements set by:

Auburn University

CITI
Collaborative Institutional Training Initiative

Verify at www.citiprogram.org/verify/?w9149e4e6-8787-4765-b0cd-8c1b5746b02b-50323400

CITI PROGRAM



Completion Date 10-Oct-2022
Expiration Date 09-Oct-2025
Record ID 52024125

This is to certify that:

devin smith

Not valid for renewal of certification through CME.

Has completed the following CITI Program course:

IRB Additional Modules
(Curriculum Group)
Internet Research - SBE
(Course Learner Group)
1 - Basic Course
(Stage)

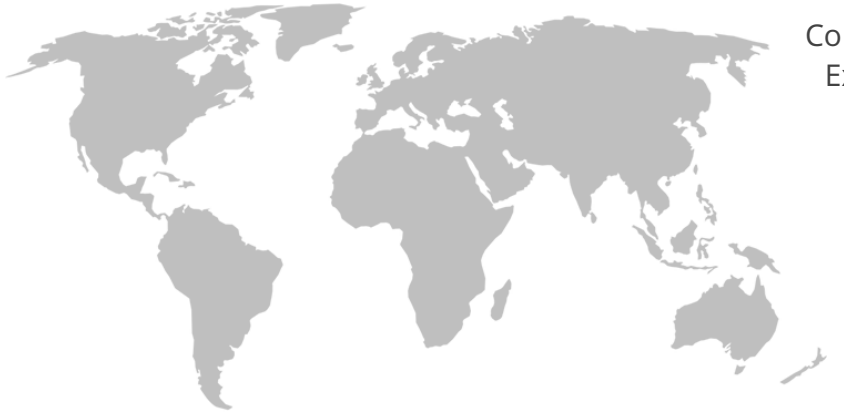
Under requirements set by:

Auburn University

CITI
Collaborative Institutional Training Initiative

Verify at www.citiprogram.org/verify/?wa8a0c6ae-c109-456d-b5fa-191e2cf629c8-52024125

CITI PROGRAM



Completion Date 09-Oct-2022
Expiration Date 08-Oct-2025
Record ID 49346310

This is to certify that:

devin smith

Not valid for renewal of certification through CME.

Has completed the following CITI Program course:

IRB Additional Modules
(Curriculum Group)
Research in Public Elementary and Secondary Schools - SBE
(Course Learner Group)
1 - Basic Course
(Stage)

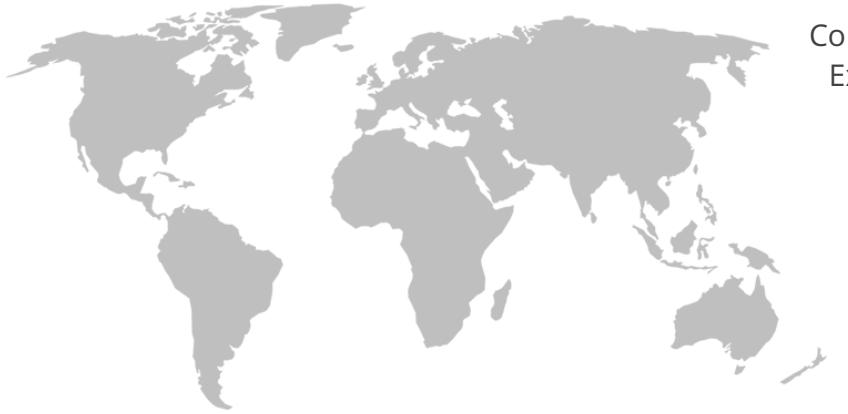
Under requirements set by:

Auburn University

CITI
Collaborative Institutional Training Initiative

Verify at www.citiprogram.org/verify/?wf0774b74-f23e-47a1-a5f2-60a478ad0a3c-49346310

CITI PROGRAM



Completion Date 06-Jun-2022
Expiration Date 05-Jun-2025
Record ID 49346312

This is to certify that:

devin smith

Not valid for renewal of certification through CME.

Has completed the following CITI Program course:

IRB # 2 Social and Behavioral Emphasis - AU Personnel - Basic/Refresher
(Curriculum Group)
IRB # 2 Social and Behavioral Emphasis - AU Personnel
(Course Learner Group)
1 - Basic Course
(Stage)

Under requirements set by:

Auburn University

CITI
Collaborative Institutional Training Initiative

Verify at www.citiprogram.org/verify/?w1ae63837-c6d7-48bf-a768-8f48f65b897d-49346312