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The Perceived Importance and Ability of Secondary Agricultural Education Teachers Regarding Accommodating Students with Exceptionalities: A Mixed Methods Study

Raegan Ramage

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The Perceived Importance and Ability of Secondary Agricultural Education Teachers Regarding Accommodating Students with Exceptionalities: A Mixed Methods Study

A Thesis

Submitted to the Graduate Faculty of the
Louisiana State University and
Agricultural and Mechanical College
in partial fulfillment of the
requirements for the degree of
Master of Science

in

The Department of Agricultural and Extension Education

by

Raegan Ramage
B.S., Mississippi State University, 2019
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First, I would like to first thank Robert for the support you’ve provided through affirmations and encouragement as I pursued a dream of mine. I look forward to continuing to build our lives together.

To my parents, Rana and David, thank you for your encouragement and understanding. You have each motivated me to be a better person. Thank you both for the sacrifices you’ve made to help me reach this point in my life.

To the person I can always turn to, Mer, thank you for the continual support you’ve shown me throughout my life. You’ve served as a place of comfort and safety to share my struggles and have always provided the best advice and wisdom despite the situation I bring to you.

I’d also like to thank my graduate committee members, Dr. Kristin Stair, Dr. Richie Roberts, and Dr. Joey Blackburn thank you all for the time you’ve invested in me as a student, for answering my countless questions, and for your guidance throughout this project. I would not have been able to complete this project without all of you.
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ABSTRACT

Each year, the number of students who have a documented disability in public schools in the U.S. has increased. However, SBAE instructors continue to identify a lack of confidence when teaching students with exceptionalities. This lack of confidence is exacerbated by a lack of professional development opportunities and preservice training offered by teacher preparation programs regarding teaching students with special needs. To better understand this complex issue, this mixed methods investigation sought to describe Louisiana SBAE instructors’ previous educational experiences focused on accommodating students with special needs and describe their desired professional development opportunities regarding accommodating students with special needs. This study’s quantitative strand employed a Borich style online survey in which participants indicated their perceived relevance and ability when accommodating different disability categories as well as utilizing specific strategies when teaching students with special needs through mean weighted discrepancy scores (MWDS). Concurrently, in the qualitative strand, participants completed semi-structured interviews to share their lived experiences central to the phenomenon. Following data collection, the point of interface occurred when I interpreted findings to compare existing convergences and divergences of the data. Overall, the strands converged regarding the need for additional professional development for Louisiana SBAE instructors when accommodating students with exceptionalities, specifically concerning the disability types of blindness or a visual impairment, deafness or hearing impairment, autism, and emotional or behavioral disorders. In addition, inclusion strategies arose as the agricultural teachers desired to better understand the legal regulations of teaching students with special needs in the classroom as well as through FFA and SAE activities. As a result of the investigation, I
provided recommendations for tailoring professional development events for Louisiana SBAE instructors in ways that feature the key findings of this investigation.
CHAPTER I. INTRODUCTION TO RESEARCH

Background

During the 2017-2018 school year, 868 school-based agricultural education (SBAE) instructors reported they would not be returning to the classroom. That same year, growth in secondary agricultural education showed an 11.5% increase in the number of positions considered to be new hires (Foster et al., 2020). When further evaluating these new hires in the field, approximately 27.8% \( (n = 443) \) of certified instructors were transferring schools, while 26.2% \( (n = 418) \) were new graduates who were preparing to teach in the same state in which they had been certified (Foster et al., 2020). The number of new teachers in schools each year is not the only change in agricultural education classrooms; student demographics have also changed. In the 2018-2019 school year, 14% of students were classified as individuals with a disability, the highest percentage reported to date (NCES, 2020). The classroom is becoming increasingly diverse, and as Hinders (1995) stressed, education should celebrate students’ individuality rather than restrict opportunities based on students’ limitations. Prior research in agricultural education has indicated successful strategies for teaching students with special needs are still being explored and the goal of future research should be to determine effective methods for accommodating students (Aschenbrenner et al., 2010).

Career and Technical Education

Career and Technical Education (CTE) represents an essential system for secondary education students to explore career and employment opportunities and build valuable skills to develop students’ career readiness upon graduation (Sarkees-Wircenski & Scott, 2003). CTE offers students sixteen cluster areas, including agriculture, business, health, marketing, family and consumer sciences, technical communications, and trade and industry (Plasman, 2019; Sarkees-Wircenski & Scott, 2003; USDOE, 2019). Through these programs, CTE helps to
address the workforce gap found within the U.S., however, deficiencies persist in the workforce for jobs that require middle skills (Burrowes et al., 2014). These middle skills consist of jobs that require the employee to have obtained a high school degree, or equivalent, but have less than a four-year degree. The CTE curriculum and programs offered to students while in high school, help to develop the middle skillset for students upon graduation (Burrowes et al., 2014; USDOE, 2019).

CTE programs have also demonstrated a statistically significant and positive increase in helping students work toward career readiness (USDOE, 2019). Therefore, policy reform such as the Strengthening Career and Technical Education Act was established to clear the way for students to complete CTE coursework as part of their high school curriculum (Bozick & MacAllum, 2002). In particular, the legislation helped to reduce student entry barriers and increased CTE participation while providing opportunities and experiences to promote workforce development upon graduation (Strengthening Career and Technical Education for the 21st Century Act, 2018). The act also served to promote the expansion of CTE programs and develop rigorous standards and relevance for students through academic and technical skills (Smith & Boyd, 2018) while allowing students to access CTE programs through platforms such as state vocational-technical high schools, area vocational-technical schools, or local high schools (Sarkees-Wircenski & Scott, 2003).

Availability of programs is critical to help increase student educational outcomes. The expansion of CTE programs allowed for 88% of public high schools to offer at least one CTE program. Additionally, many schools were served through area vocational-technical schools resulting in 1,200 area vocational-technical programs across 41 states in 2020 (ACTE, 2020). The completion of CTE coursework is determined based on the number of CTE courses
completed, resulting in the student being deemed either a participator or a concentrator in CTE coursework (USDOE, 2019). Participators represent students who completed one CTE course, while concentrators have completed two or more CTE courses in a focused field of study (USDOE, 2019). In 2009, 77% of secondary CTE students were classified as participators their senior year, while 37% were concentrators (USDOE, 2019).

CTE programs provide students with the skills and knowledge to achieve success in secondary education and progress into the workforce or post-secondary education (Brand et al., 2013). Hughes et al. (2012) found students’ participation in career-focused dual enrollment programs resulted in higher rates of high-school graduation and enrollment into a four-year university. Student CTE participation has also shown to benefit students through higher wages and increased employment opportunities upon graduation (Rodriguez et al., 2012; Theobald et al., 2017). At the same time, CTE program design allows for authentic learning experiences for students by implementing learner-centered instructional strategies, applying real-world skills, and promoting critical thinking skills (Anderson et al., 2018; Rule, 2006).

Agricultural Education

As a component of CTE, agricultural education teaches students about topics related to science, agriculture, food, business, and natural resources (Phipp et al., 2008). Additionally, agricultural education promotes student leadership development, career success, and overall personal growth (National FFA Organization, 2020). The total agricultural education program is designed through a three-circle model of (a) classroom and laboratory instruction, (b) experiential learning through the development of a Supervised Agricultural Experience (SAE), and (c) leadership development in the National FFA Organization (Croom, 2008; NAAE, 2021c). Conceptually, each component of the model contributes equally to student learning and
success (National FFA Organization, 2020) while allowing SBAE teachers to implement a variety of classroom instruction methodologies in various learning environments (Bowling & Ball, 2020; Phillips et al., 2008).

Agricultural education has also been reported to positively benefit youth through development of self-identity (Bowling & Ball, 2020; Hansen et al., 2003) as well as increased exposure to agricultural careers and pathways (Lundry et al., 2015). Further, agricultural education programs have traditionally served to prepare students to enter the agricultural workforce (Lundry et al., 2015) and developed soft skills through teamwork, leadership, and civic service (NAAE, 2021a).

Historically, agricultural education has served students with diverse learning needs by developing their employability skills (Lundry et al., 2015; Wonacott, 2001). Specifically, the hands-on application found in the agricultural education curriculum has shown positive outcomes for students with special needs (Harvey, 2001; McLeskey & Weller, 2000). As a result, in 2011, one-fifth of SBAE students were reported as having special needs (Easterly & Myers, 2011). The hands-on application of agricultural skillsets has allowed students with special needs to cultivate occupational skills which can be applied to life post-graduation and ultimately increased employment opportunities (Harvey, 2001). In addition, public school accountability has progressed to more accurately meet individualized students’ needs (Dormody et al., 2006). To serve all students, SBAE instructors must be prepared through teacher preparation programs and provided with continual professional development (PD) opportunities to meet the needs of students with special needs in agricultural education classrooms (Stair, 2009).
**History of Special Education**

Before the 1970s, millions of children with special needs were deprived of public education and often kept distanced from society (Martin et al., 1996). Landmark legislation was passed in 1975 through the *Education for All Handicapped Children Act* (EHA) which supported states when protecting the rights of students with special needs and meeting their diverse needs (USDOE, 2010b). Implementation of the EHA allowed students to be educated in the same environment as their peers without disabilities, advocating for students to be taught in the least restrictive environment (LRE) possible for their academic success (Osgood, 2005). The 1997 amendment renamed this act the *Individuals with Disabilities Act* (IDEA), and Congress further amended the act in 2004. The IDEA defined a child with a disability as:

…a child having an intellectual disability, a hearing impairment (including deafness), a speech or language impairment, a visual impairment (including blindness), a serious emotional disturbance (referred to in this part as “emotional disturbance”), an orthopedic impairment, autism, traumatic brain injury, and other health impairment, a specific learning disability, deaf-blindness, or multiple disabilities, and who, by reason thereof, needs special education and related services (IDEA, 2004, Sec. 300.8).

Additional legislation was passed through the 2001 *No Child Left Behind Act*, which reformed many sectors of the United States K-12 education system while making efforts to decrease the achievement gap of students with disabilities and their peers (Hayes, 2003). In 2015, the *Every Student Succeeds Act* (ESSA) was signed into law as the leading educational policy in the U.S., which provided further representation for students with special needs and increased the parental role when developing a student’s Individualized Education Plan (IEP) (ESSA, 2015).

Special education services require unique components based on students’ individual learning needs to ensure they receive a “free and appropriate public education” (FAPE) (USDOE, 2010a, para. 3). Legislation ensured the implementation of FAPE through mandates
for schools that received federal funding, which included: (1) the design of educational services to meet the individual educational needs of students with special needs as adequately as the needs of nondisabled students; (2) the education of each student with a disability with nondisabled peers to the maximum extent appropriate; (3) evaluation and placement procedures to protect against misclassification or inappropriate placement of students, accompanied by a periodic reevaluation of students provided special education or related services; and (4) the establishment of due process procedures that enable parents and guardians to receive required notices, review their child’s records, challenge identification, and participate in the evaluation and placement decisions (ESS, 2010). An additional requirement of legislative action aimed to develop inclusive educational practices by creating an IEP for each student receiving educational services through the IDEA, based on their unique needs (USDOE, 2000).

**Special Education in Agricultural Education**

Special education research in agricultural education has shown teachers often disagree that their teacher preparation training program was adequate to equip them for teaching students with special needs (Hoerst & Whittington, 2009; Stair et al., 2010). Faulkner and Baggett (2010) reported 23.8% of agricultural teacher educators indicated their accreditation programs did not require special education course credits. Further, data collected from agricultural educators in Louisiana demonstrated low confidence when teaching students who have special needs when (a) evaluating students work, (b) providing adequate instruction, (c) managing student’s behavior, and (d) receiving adequate education and training through PD opportunities (Stair et al., 2016).

Recent research conducted on the professional development needs of agricultural education teachers in Iowa showed implementing students’ IEPs was the second-highest ranked need for teachers within the state (Smalley et al., 2019). Additionally, a study completed in
North Carolina revealed statistically significant and positive relationships between hours of professional development focused on students with special needs and a more positive perception of involvement in FFA activities for that student population (Johnson et al., 2012). Further, Louisiana agricultural education teachers across early, mid, and late career stages described a need for PD related to teaching diverse learners (Roberts et al., 2020).

Agricultural education classrooms have been seen as highly effective in serving students with special needs (Casale-Giannola, 2012). In a study conducted with North Carolina agricultural education instructors, 87% of teachers believed that an SAE helped students with special needs set career goals. Additionally, 90% of SBAE teachers believed an SAE enhances the social skills of students with disabilities (Johnson et al., 2012). Consequently, agricultural education may provide increased opportunities for students through diverse learning experiences that traditional classroom settings may not offer. A unique component of agricultural education classrooms stems from the influx of hands-on activities not typically found in traditional classrooms. Because of this, students have reported an increase in confidence and a deeper level of engagement in agricultural education (Bowling & Ball, 2020) as compared to other coursework.

**Professional Development in Agricultural Education**

PD has been identified as a critical focus to address deficiencies and emergent changes in teacher education (Birman et al., 2000). To meet this need, effective PD opportunities should address teachers’ needs and help develop skills that may lead to teacher success and retention. Recent work conducted by Stair et al. (2019) analyzed the PD needs of SBAE teachers in Louisiana based on traditional and alternative certification methods and recommended regular evaluation of PD needs of agricultural educators in the state to identify trends and PD needs that
may change over time. Ruhland and Bremer (2002) identified PD as a critical issue to teacher retention, proving especially relevant through the national shortage of agriculture teachers over the past decades. However, not all PD opportunities are beneficial for teachers because of program quality. As such, Gulamhussien (2013) advanced the following characteristics of quality PD: (a) duration of PD to ensure adequate time to opportunity learn and understand the implications of the presented concepts; (b) support for the teacher; (c) engagement of teachers; (d) opportunities to model target concepts; and (e) grounding the topic in the relevant discipline. The qualitative exploration by Easterly and Myers (2017) found while participants perceived PD positively, they did not report active engagement in planning PD events. Instead, they attended events that popped up.

Alquraini and Gut (2012) emphasized education should be an ongoing process for educators and PD was essential to help teachers succeed. Bayar (2014) discussed traditional versus non-traditional PD activities, with traditional activities representing short workshops or conferences and non-traditional methods provided through mentoring, coaching, or peer observation. Smalley and Smith (2017) explored the specific approaches SBAE teachers reported as being the most common methods of staying professionally prepared. Most teachers in the study indicated use of the National Association of Agricultural Educators (NAAE) Communities of Practice as their preferred method of obtaining new information, followed by state and national conferences and opportunities through Curriculum for Agricultural Science (CASE) institutes.
Conceptual Frameworks

This investigation utilized two conceptual frameworks to guide the study. For example, cognitive sensemaking (Weick, 1995) and Borich’s (1980) model were utilized to conceptualize and guide the investigation. The frameworks are presented in greater detail below.

Cognitive Sensemaking

Karl Weick introduced sensemaking in 1969, he later defined the concept as “the making of sense” (Weick, 1995, p. 4). Sensemaking takes place when an individual is presented a large amount of information about a new topic, such as preservice education, where the individual processes the information to ultimately produce an action response (Weick, 1995). The concept includes the mechanisms an individual may utilize when processing a presented concept (Weick, 1995). Further, the processing concepts results from three distinct stages of notice, interpretation, and action (Lycett et al., 2016). First, notice occurs when the individual identifies essential components of the information presented, followed by interpretation when the individual processes the information presented (Lycett et al., 2016). Lastly, action results from the individual’s response to the information after application of interpretation, where an individual’s prior beliefs may influence their interpretation (Weick, 1995). Through an exploration of participants’ sensemaking, a deeper understanding of prior educational experiences and perceptions centered on teaching students with special needs and a description of what PD needs exist, may help to determine what actions teachers take in the future as related to special education within the agricultural classroom.

Borich (1980) Model

Teacher perceptions often guide the success of inclusive practices. Because teacher perceptions shape their professional practices, one conceptual framework grounding this
investigation was the Borich needs assessment model, created by Dr. Gary D. Borich in 1980. The model outlines critical components that define the format and quality of data collection regarding PD needs (Borich, 1980). Therefore, it is often used to describe teachers’ training needs by identifying discrepancies between an individual’s perceived relevance as compared to an individual’s professional knowledge. Further, training needs are defined as “a discrepancy between an educational goal and trainee performance in relation to this goal” (Borich, 1980, p. 39). Additional analysis of needs can also be determined by individuals’ actual skill level in comparison to their desired skill level. The model measures “behaviors, skills, and competencies” while comparing those benchmarks against the implemented goals of the program (Borich, 1980, p. 39). Difference between the two allows for the analysis of the program’s effectiveness. In particular, the model is composed of five steps:

1. Development of a list of competencies;
2. Application of the developed survey, which was composed of developed competencies;
3. Ranking of competencies;
4. Analysis of competencies with the context of the training program;
5. Revision of program or competency (Borich, 1980, pp. 39–41).

Typically, questionnaires that utilize the Borich model are formatted through a two-step response in which participants rank the perceived relevance of a skill as compared to their perceived level of competence. Competence statements are further broken down into categories of knowledge, performance, and consequence. The knowledge competency includes factors such as accurately remembering, summarizing, or conveying a specified behavior or procedural processes through pen and paper presentation (Borich, 1980). Performance competencies determine if the individual can effectively perform the desired skill in a real or artificial environment under supervision (Borich, 1980). Finally, consequence competencies represent the
ability to direct learning from participants through specific classroom behaviors (Borich, 1980).

Below, is a visual representation of the Borich (1980) conceptual framework (see Figure 1.1).

![Borich’s Conceptual Framework](image)

**Figure 1.1.** *Borich’s Conceptual Framework.*

**Statement of the Problem**

Understanding the approaches that best equip teachers to educate students with special needs has been a challenge in school-based agricultural education (SBAE) (Andreason et al., 2007; Aschenbrenner et al., 2010; Dormody et al., 2006; Easterly & Myers, 2011; Elbert & Bagget, 2003; Faulkner & Bagget, 2010; Johnson et al., 2012; Kessell, 2005; Kessell et al., 2009; LaVergne et al., 2011; Stair, 2009; Stair et al., 2010; Stair et al., 2016). Research has shown the positive impact of inclusive practices when educating students with disabilities (Stair et al., 2010), particularly due to the perceived benefits of the SBAE curriculum and the increase in legislative support. However, SBAE instructors have reported feeling incompetent when teaching students with special needs (Elbert & Baggett, 2003). Therefore, a need exists to better prepare teachers. PD has been identified as a critical component to address deficiencies and emergent changes within education (Birman et al., 2000). To meet this need, effective PD opportunities should address teachers’ needs and help develop skills that may lead to teacher success and retention as well as positive actions within the classroom. Therefore, successful professional development programs within special education should present SBAE instructors...
with new resources to enable success when teaching with students with special needs in all areas of the SBAE program (Stair et al., 2019; Coleman et al., 2020).

Providing adequate PD can be challenging as PD opportunities change over time based on trends in the profession and additional external factors that influence SBAE teachers (Easterly & Myers, 2018). For example, the COVID-19 pandemic resulted in increased difficulties for teachers in the classroom as well as providing added challenges to providing impactful PD (Roberts et al., 2020; Thornton et al., 2020). To reach a large number of teachers, diverse PD opportunities are needed to address the continually changing needs of SBAE instructors throughout their careers (Coleman et al., 2020; Stair et al., 2019; Sorensen et al., 2014).

The PD of SBAE instructors when accommodating students with special needs is essential in supporting SBAE instructors, especially given the disproportionately large percentage of students with special needs in SBAE (Smith & Rayfield, 2019). PD should provide teachers with specific instructional changes to best meet their students’ needs (Allinder, 1994). In particular, SBAE instructors should be prepared for and expect to work with students with a wide range of abilities. Therefore, they also require PD opportunities to improve the accommodation of those diverse needs (Dormody et al., 2006). In order to better understand the PD needs of SBAE instructors when teaching students with exceptionalities, research should be approached through combined exploration of quantitative and qualitative application. The application of mixed methods research provides an in-depth review of participants needs (Thornton et al., 2020) that can be transformed into meaningful practice.

**Purpose of the Study**

The purpose of this mixed methods study was to describe Louisiana SBAE teachers (a) previous education regarding teaching students with special needs and (b) desired professional
development opportunities regarding accommodating students with exceptionalities. A convergent parallel mixed methods design was utilized by collecting both quantitative and qualitative data, where data was independently collected and analyzed before being merged. In this study, quantitative data was aligned through the Borich (1980) model to describe participants’ professional development needs when teaching students with special needs while also describing participants’ prior education centered on teaching students with special needs. In conjunction with the quantitative date, qualitative interviews explored participants’ prior experiences and professional development needs when teaching students with special needs. The purpose for collecting two forms of data was to converge the data and establish a more in-depth description than would be achieved through a singular data form.

**Research Objectives**

1. Describe the education received by Louisiana SBAE teachers regarding students with exceptionalities.
2. Describe the discrepancy between relevance and ability of Louisiana SBAE teachers when accommodating students with a disability.
3. Describe the discrepancy between relevance and ability of Louisiana teachers regarding inclusion strategies for students with special needs in SBAE.

**Definition of Terms**

**Accessibility** – A term used to represent the access to a curriculum or environment for students with special needs, which is achieved through design, accommodations, or modifications based on the individual needs of the student (IDEA, 2004).
Accommodations – A term used to describe an alteration of the presentation of educational material to students through factors that do not alter the curriculum presented to the student but rather the method presentation (University of Washington, 2019).

Attention Hyperactive Deficit Disorder – A disorder characterized by patterns of inattention, hyperactivity, and/or impulsivity which interferes with developmental stage and daily functions (National Institute of Mental Health, n.d.).

Autism Spectrum Disorder – A disorder which effects an individual’s developmental stages and presents diverse challenges in social interaction, communication, and/or restricted or repetitive behaviors (Copeland, 2018).

Blindness or Visual Impairment – A visual impairment that adversely affect the student’s educational performance, even with the usage of corrective eyewear (IDEA, 2004).

Deaf or Hearing Impairment – An impairment that results in the child having limited ability to process linguistic information by hearing, and ultimately negatively effects the child’s educational performance (IDEA, 2004).

Disability – A person who possesses a physical or mental impairment which significantly interferes with one or more of their daily life functions (ADA, 1990).

Emotional or Behavioral Disorder – An impairment that restricts the child from learning, but is not explained by intellectual, sensory, or health factors which may affect their relationships, communication skills, or mood tendency (IDEA, 2004).

Exceptionalities – A term for a student who possesses special needs or giftedness regarding a student’s individual educational needs or performance (Blalock, n.d.).
**Free Appropriate Public Education** – A child between the age of three and 21 who receives free public education services that meets the child’s individual needs through educational related services, at no cost to the child’s parent or guardian (IDEA, 2004).

**General Education** – A term used to represent the educational setting presented to a student who does not require any modifications or accommodations to achieve academic progression (IDEA, 2004).

**Inclusive education** – An educational practice which embraces diversity among students by providing an educational environment which promotes the individual needs of each student as an equal member of the learning environment (Cologon, 2013).

**Individualized Education Plan** – A written plan for a student with special needs that is developed, reviewed, and revised based on the student’s individual needs, goals, and evaluation needs to support the success of the student (IDEA, 2004).

**Intellectual Disability** – A disability which influences a child’s intellectual function that results in deficits of adaptive behavioral skills which progresses through the individual’s developmental stages (IDEA, 2004).

**Least Restrictive Environment** – The practice of educating students with special needs in an environment alongside their general education peers to the greatest degree possible as suited for the student (Thomas & Rapport, 1998).

**Mainstreaming** – The practice of placing students with special needs in general education classes for portions of the school day while the student spends the majority of their academic day in a special education classroom (Lynch, 2016).

**Modification** – A term used to describe adjustments made to what curriculum is taught to a student with special (University of Washington, 2019).
Orthopedic Impairment – An impairment that limits a child’s mobility or strength and ultimately results in adverse effects to their educational performance (IDEA, 2004).

Other Health Impairment – An impairment that results in the child experiencing limited strength, alertness, or liveliness in response to their environment (IDEA, 2004).

Professional Development – An educational event that serves individuals at their current professional stage which presents methods that can be used to reach a higher degree of learning and development (Department of Education, n.d.; Ruhland & Bremer, 2002).

School-Based, Agricultural Education – An educational platform which consist of a three-circle learning model in which students learn a variety of skills of leadership, experimental learning, and content focused on agriculture, food, and natural resources (NAAE, n.d.).

Special Education – An educational experience in which instruction is specifically designed based on the individual needs of the students possessing a designated disability (IDEA, 2004).

Special Needs – A term that represents the individualized needs of a student which are met through specialized services applicable through different formats and differing educational settings for the student (The Understood Team, n.d.).

Specific Learning Disability – A disorder that effects one or more of the basic physiological functions used in comprehension or expression of language which may then affect a child’s ability to read, write, perform mathematical calculations or process information (IDEA, 2004).

Speech or Language Disabilities – An impairment that hinders a child’s verbal communication abilities, and ultimately affects the educational outcomes of the child (IDEA, 2004).

Supervised Agricultural Experience – A component of the agricultural education curriculum which allows students to implement knowledge or skills gained in the classroom setting to external environments through an experiential practice (Doss et al., 2019; Talbert et al., 2014).
**Traumatic Brain Injury** – An alteration to an individual’s brain function or pathology resulting from an external force (Menon et al., 2010).

**Limitations of the Study**

1. The study was limited to SBAE instructors in the state of Louisiana.
2. The study was limited to the 2020 – 2021 academic school year.
3. The findings from this study cannot be generalized to SBAE populations outside of the state of Louisiana.
4. As quantitative data was collected through the format of an online survey, where participants self-reported data, threats to validity may exist (Chan, 2009).
5. Through qualitative inquiry, my opinions and biases influenced data interpretation, which resulted in the possibility of differing interpretations if analyzed by other researchers.

**Assumptions**

For the purpose of this study, the following assumptions were made:

1. All participants were SBAE instructors in the state of Louisiana.
2. All participants had a valid teaching license in the state of Louisiana.
3. All participants responded truthfully and accurately through the survey and interview responses.

**Need for this study**

This study aligned with standard six of The National Council for Agricultural Education, which called for identifying professional growth areas in agricultural education (2016). Because the U.S. spends $18 billion annually on teacher professional development, ensuring impactful training opportunities is essential for future research (Horn, & Goldstein, 2018). Despite this, few studies have focused on determining the needs of SBAE teachers concerning teaching
students with exceptionalities. In order to better understand Louisiana SBAE instructor’s needs, the use of quantitative data may provide statistical information, while qualitative data may provide depth through the lived experiences of instructors. To this point, Thornton et al. (2020) suggested a need for mixed methods investigations to explore this phenomenon. This call for in-depth mixed methods research motivated the current investigation.
CHAPTER II. Literature Review

Purpose of the Study

The purpose of this mixed methods study was to describe Louisiana SBAE teachers (a) previous education regarding teaching students with special needs and (b) desired professional development opportunities regarding the accommodation of students with exceptionalities. A convergent parallel mixed methods design was utilized by collecting both quantitative and qualitative data, where data was independently collected and analyzed before being merged. In this study, quantitative data collected was aligned through the Borich (1980) model to describe participants’ professional development needs when teaching exceptional students. The quantitative data also described participants’ prior education centered on teaching students with special needs. The qualitative interviews explored participants’ prior experiences and professional development needs when teaching students with special needs. The reason for collecting two forms of data was to converge the data and establish a more in-depth description than would be achieved through a singular data form.

Research Objectives

1. Describe the education received by Louisiana SBAE teachers regarding students with exceptionalities.
2. Describe discrepancy between relevance and ability of Louisiana SBAE teachers regarding accommodating students with a disability.
3. Describe the discrepancy between relevance and ability of Louisiana teachers regarding inclusion strategies for students with special needs in SBAE.
Chapter Overview

This chapter describes the progression of special education in the United States as well as within SBAE through milestone court cases in education. Historical landmarks found within The Agricultural Education Magazine describe the progression of students with special needs in agricultural education as described by experts within the field. Three questions guided the chapter: (1) What legislative acts led to the development and progression of SBAE in the U.S.? (2) What legislation guided the inclusion of students with special needs in U.S. public schools? and (3) How has The Agricultural Education Magazine presented inclusive practices in publications over time? It is important to note, that within the historical context of the chapter, it was essential to include terminology that was used during the time, which often includes language that may be considered exclusive by today’s standards. Because agricultural education classrooms have proven to be beneficial for students with special needs, it is important to understand the legislative journey which has supported inclusion (Casale-Gionnola, 2012).

Agricultural Education Legislation

Over 8,000 agricultural education classrooms exist in every state across the nation (Foster et al., 2020). In 2020, a historical benchmark for the National FFA Organization was achieved through record-breaking membership with over 760,000 members (The National FFA Organization, 2020). Successful participation in SBAE has benefitted students in a variety of ways by positively impacting students’ post-secondary education experience (Rose et al., 2016). Agricultural education has changed over time, primarily driven by historical legislation that led to long-term changes within the program (see Table 1.1).
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<th>Legislation</th>
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<td>1862</td>
<td><em>Morrill Act</em></td>
<td>Provided federal funding and designated land for each state to establish universities to “benefit the agricultural and mechanical arts” (Herren &amp; Hillson, 1996)</td>
</tr>
<tr>
<td>1887</td>
<td><em>Hatch Act</em></td>
<td>Provided federal funding to establish research stations in each state</td>
</tr>
<tr>
<td>1890</td>
<td><em>Second Morrill Act</em></td>
<td>Enacted Land-Grant Universities were to be established and receive federal funding for minority students</td>
</tr>
<tr>
<td>1914</td>
<td><em>Smith-Lever Act</em></td>
<td>Provided federal funding which led to the establishment of the Cooperative Extension Services</td>
</tr>
<tr>
<td>1917</td>
<td><em>Smith-Hughes Act</em></td>
<td>Provided federal funding to establish vocational education programs in secondary education</td>
</tr>
<tr>
<td>1936</td>
<td><em>George-Deen Act</em></td>
<td>Provided annual federal funding appropriation to be distribution to states in support of vocational education and teacher training</td>
</tr>
<tr>
<td>1946</td>
<td><em>George-Barden Act</em></td>
<td>Provided federal funding for vocational education state supervisors, vocational counselors, and training or work experience programs</td>
</tr>
<tr>
<td>1963</td>
<td><em>Vocational Education Act</em></td>
<td>Provided additional funding to the expansion and improvement of vocational education programs and financial support of youth who pursued vocational education</td>
</tr>
<tr>
<td>1984</td>
<td><em>Carl D. Perkins Vocational Education Act</em></td>
<td>Provided additional funding for vocational education programs, with funding emphasis for students with special needs in vocational education programs</td>
</tr>
<tr>
<td>1994</td>
<td><em>School-to-Work Opportunities Act</em></td>
<td>Established a framework that promoted resources which enabled students to enter</td>
</tr>
</tbody>
</table>
Morrill Land-Grant Act

Formal instruction in agricultural education began as early as the mid-1800s with the passage of the *Morrill Act of 1862* which supported the development of land-grant universities and the introduction of agriculture in formal higher education. Jonathan Turner created a campaign to establish educational institutions to provide training in “agricultural and industrial studies” (Brown, 1962, p.373), as such, he played a vital role by creating the original concept through a speech at the Farmer’s Convention in Granville, Illinois in 1851 (Brown, 1962; Herren & Hillson, 1996). Justin Morrill of Vermont built on Turner’s work and presented the idea to the United States Congress in 1862 (Herren & Hillson, 1996). The passage of the act was no small feat. However, the Civil War played a key role in the bill’s eventual passage by allowing only Northern states to vote on the passage of the bill and preventing key Southern opponents from opposing the legislation (Herren & Hillson, 1996). As a result, the *Morrill Act of 1862* established 30,000 institutional acres of land for each state to educate individuals on agricultural and industrial practices, home economics, and military training (Herren & Edwards, 2002; Lee, 1963). Today, land-grant universities and research stations exist in every state.

Hatch Act

The first research station was developed in 1875 by Wilbur O. Atwater at Wesleyan University in Middletown, Connecticut (Seevers & Graham, 2012). The *Hatch Act of 1887* continued the progression of agricultural education by establishing funding for research farms (stations) based on or near the land-grant universities (Hatch Act, 1887). These stations allowed
for the development of new knowledge through scientific research to solve the agricultural industry’s problems. Research resulting from the Hatch Act included a wide array of topics ranging from water conservation to home economics, which presented the opportunity to strengthen and expand the work occurring in land-grant universities (Hatch Act, 1887). The establishment of research stations allowed research to focus on specific local, state, regional, or national problems (NIFA, n. d.).

Second Morrill Act

Justin Morrill presented 12 bills from 1872 to 1890 when working to secure funding for new agricultural institutions (Seevers & Graham, 2012). Morrill’s second major agricultural act required established land-grant institutions to either admit Black students into their institutions or develop a separate but equal agricultural education institute for these students in order to receive funding (Recognizing the Continuing Contributions of the 1890s Land-Grant Universities on the 125th Anniversary of the Passage of the Second Morrill Act, 2015). As a result, 16 new Land-Grant Institutions were established under the act, and Tuskegee University was deemed a land-grant institution (Recognizing the Continuing Contributions of the 1890s Land-Grant Universities on the 125th Anniversary of the Passage of the Second Morrill Act, 2015). Further, universities served under the 1890 act offered college preparatory courses resulting in the strengthening of teacher preparation programs at the established universities (Seevers & Graham, 2012). The intended separate but equal funding for the two Land-Grant Institution systems created discrepancies as Land-Grant Universities established under the 1862 act received more federal funding than those established by the 1890 legislation.
Smith–Lever Act

In 1914, the Smith-Lever Act provided federal funding to fill the void in disseminating information from land-grant universities and research stations to the general public. Through this act’s funding, the Cooperative Extension System was established, which extended outreach efforts to educate rural populations about advancements in agriculture. This allowed dissemination methods through demonstrations, presentations, or instructions to the general public (Seevers & Graham, 2012). The Cooperative Extension Service provided educational opportunities to men, women, and children through demonstrations ranging in home economics, youth education, and agricultural practices (Seevers & Graham, 2012). This act completed the “tripartite mission of teaching, research, and service” by combining education established through land-grant universities with research conducted by experiment stations (Phillips et al., 2008, p.29).

Smith-Hughes Act

Following the Morrill Act of 1862, the Smith-Hughes Act of 1917 provided federal funding to enhance agricultural education courses at the public secondary level (The Smith-Hughes Act for Vocational Education, 1917). The work of Senator Hoke Smith and Representative Dudley M. Hughes, both of Georgia, resulted in the Act’s passage (Moore, 2017). Federal funding from the act, along with the cooperation of participating states, ensured both salaries and transportation of “teachers, supervisors, directors of agricultural subjects, and agricultural teacher educators” (Phillips et al., 2008, p. 29). As part of the Smith-Hughes Act, vocational education students over the age of 14 were required to maintain a farm project for at least six months of the year (Moore, 2017; Phillips et al., 2008). While other acts focused on college education, the Smith-Hughes Act focused primarily on education below college level.
The act was the first to directly address vocational education’s evolution at the public secondary level. Future legislation would expand and promote K-12 vocational education.

**George-Deen Act**

The *George-Dean Act of 1936* provided federal funding appropriation without term limitations to support the expansion of vocational education programs (Barlow, 1976). Funding allocations were set as a maximum allocation through the act with appropriations determined annually (Barlow, 1976). This act allocated funding to the fields of agriculture, home economics, trades and industries, teacher training, and distributive education (Barlow, 1976). The act introduced the first federal funding to aid in the training of distributive and sales workers through sponsored training requested by local citizens (Buerki, 1981). Distribution training occurred through a variety of programs (Buerki, 1981). Through increased vocational education training, individuals built their employability (Barlow, 1976). The act encouraged future funding and training of vocational education personnel.

**George-Barden Act**

The *George-Barden Act of 1946* amended the *George-Deen Act of 1936* (Barlow, 1976). The act allocated funding for items not included in the original 1936 act including salary and travel expenses of state vocational directors and vocational counselors (Barlow, 1976). In addition, states participating in federal funding were able to also allocate funding for research and local programs, although the funding priority was given to supervision programs, counselor training, and necessary research, with remaining funding then allocated to local programs (Barrett, 1948). A committee was compromised from general and vocational education representatives to present diverse platforms across the industry which then developed policy
outline of expected duties of vocational state supervisors and vocational counselors (Barrett, 1948). Through the combined funding of the *George-Barden Act* and the *Smith-Hughes Act*, vocational education received an unprecedented degree of funding which allowed for the progression and expansion of vocational education (Barlow, 1976).

**Vocational Education Act**

The *Vocational Education Act of 1963* provided additional funding to strengthen existing programs and create new initiatives (Phillips et al., 2008). This act addressed the growing population of students participating in vocational education and provided funding for growing programs (Dugger, 1965). One critical need for this increased funding was due to the absorption of The New Farmers of American (NFA) by The Future Farmers of America (FFA), which occurred soon after 1965, after legislation mandated the consolidation of the two organizations (Wakefield & Talbert, 2003). This vocational education expansion increased qualified graduates prepared to directly enter the agricultural workforce (United States Department of Health, Education, and Welfare, 1965b) by encouraging close cooperation among “business management, labor, and public employment services, on State and local levels” (United States Department of Health, Education, and Welfare, 1965a, p. 5). Additionally, this act supported research related to the development of vocational education (United States Department of Health, Education, and Welfare, 1965a) and addressed the growing needs of the workforce upon graduation through federal funding and additional cooperative methods.

**Carl D. Perkins Vocational Education Act**

The *Carl D. Perkins Vocational Education Act of 1984* focused on providing access for students with special needs in agricultural education (Phillips et al., 2008). The purpose of the act served to “expand, improve, modernize, and develop quality vocational education programs”
with direct attention focused on improving the skills of both the current and future workforce (Carl D. Perkins Vocational Education Act, 1984, p. 1). The act mandated students with special should receive equal access to recruitment, enrollment, and placement opportunities in vocational education programs (Carl D. Perkins Vocational Education Act, 1984). Funding from the act was directed towards the quality and expansion of vocational education programs, personnel training, and other diverse practices in vocational education (Carl D. Perkins Vocational Education Act, 1984). The act included services for individuals with special needs to promote their engagement in vocational education programs or careers (The President’s Committee on the Employment of People with Disabilities, 1988). The act aligned coordination of public agencies, including special education programs, State-level vocational education boards, and centralized programs. Following the 1984 enactment, the Act has received several reauthorizations, most recently signed into office on July 31, 2018, as the *Strengthening Career and Technical Education for the 21st Century Act* (Strengthening Career and Technical Education for the 21st Century Act, 2018).

**School-to-Work Opportunities Act**

The passage of the *School-to-Work Opportunities Act* (1994) built upon other critical legislation in vocational education by supporting students transitioning into the workforce. This act partnered with the United States Department of Education and Labor to develop a system for students’ transition from school-to-work (School-to-Work Opportunities Act, 1994). Allocation of the school-to-work program for each state occurs at the discretion of the state and local levels. However, it must include components of school-based learning, work-based learning, and connecting activities, each serving to support student progression in post-secondary education or direct workforce opportunities (School-to-Work Opportunities Act, 1994). The act served to
develop career exposure and awareness for students beginning in the elementary grades (Ohio State University, 1996). The act represented the goal of promoting the development of skills and habits valued by employers, making students more marketable for the workforce following graduation (School-to-Work Opportunities Act, 1994).

Legislation surrounding agricultural education progression demonstrates the field’s advancement since Johnathan Turner introduced the concept in 1851 (Herren & Hillison, 1996). Today, agricultural education classrooms serve students throughout the U.S. and Puerto Rico through diverse platforms. In efforts to serve students, agricultural education has continually adapted to meet workforce needs. Agricultural education has shown growth throughout each phase of its progression, which would not have been possible without legislative support. As agricultural education continues to grow, future legislation should serve to meet all students’ needs.

**Legislation Affecting Special Education**

The history of special education legislation demonstrates the journey of students with special needs moving from “exclusion to inclusion” in the U.S. public school system (Yell et al., 1998, p. 227). While the 1900s was a time of increased federal legislation supporting the rights and well-being of individuals with special needs, it also showed an era of grave injustice. Before the 1900s, individuals with special needs were kept distant from society, especially in public education. For example, an 1893 Supreme Judicial Court ruling in Massachusetts determined a child who was believed to be “weak in mind” could not benefit from instruction and served as a disruption for other students (Watson v. City of Cambridge, 1893, p. 36). While the 1900s brought change, gaps in inequality to educational access remained. In particular, in the 1970s, U.S. public school statistics showed only one in five children with disabilities received public
education (USDOE, 2010a). Legislation also expanded the availability of education to individuals with special needs through acts designed to ensure accessibility for all. A legislative review surrounding the rights of individuals with special needs identifies the steps taken towards the progression of equal rights and inclusion in the U.S. (see Table 2.1).

**Table 2.1. Special Education Legislation**

<table>
<thead>
<tr>
<th>Date</th>
<th>Legislation</th>
<th>Impact of Legislation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1958</td>
<td><em>Captioned Files Act</em> (P.L. 85-905)</td>
<td>Established support of the production and distribution of films accessible for those with special needs</td>
</tr>
<tr>
<td>1959</td>
<td><em>Training of Professional Personnel Act</em> (P.L. 86-158)</td>
<td>Created federal training resources for program administrators and teachers of children with special needs</td>
</tr>
<tr>
<td>1961</td>
<td><em>Teachers of the Deaf Act</em> (P.L. 87-276)</td>
<td>Provided training for instructional personnel for children who are deaf or hard of hearing</td>
</tr>
<tr>
<td>1965</td>
<td><em>Elementary and Secondary Education Act</em> (ESEA; P.L. 89-10)</td>
<td>Provided states federal funding with direct grant-assistance for students with disabilities</td>
</tr>
<tr>
<td>1975</td>
<td><em>Education for All Handicapped Children Act</em> (EAHCA; P.L. 94-142)</td>
<td>Mandated a free appropriate public education for children with a disability</td>
</tr>
<tr>
<td>1990</td>
<td><em>Americans with Disabilities Act</em> (ADA; P.L. 101-476)</td>
<td>Prohibits the discrimination of individuals with disabilities throughout public platforms</td>
</tr>
<tr>
<td>1990</td>
<td><em>Individuals with Disabilities Education Act</em> (IDEA; P.L. 101-476)</td>
<td>Amended the EAHCA to the IDEA and added disability categories of autism and traumatic brain injury</td>
</tr>
</tbody>
</table>

**Captioned Files Act**

As the *Carl D. Perkins Vocational Education Act* of 1984 signified progression for those in agricultural education, initial legislation surrounding individuals with special needs dates back to the *Captioned Files Act* of 1958. Films released with sound in 1927 presented an area of need for the deaf community as they were no longer able to access current films, but instead, could
only access outdated silent films (Boatner, 1980). The act provided captioning, written translation, and descriptions of the proceedings in a film or other audio source. The Captioned Files Act represented the first legislation for individuals with disabilities in the United States (U.S.), specifically those who were deaf. The act implemented the following objectives through library loan services:

(1) to bring deaf persons understanding and appreciation of those films which play such an important part in the general and cultural advancement of hearing persons, (2) provide, through these films, enriched educational and cultural experiences through which deaf persons can be brought into better touch with the realities of their environment, and (3) to provide a wholesome and rewarding experience which deaf persons may share together. (Captioned Files Act, 1958, p. 1).

Further, the act designated funding through the Department of Health, Education, and Welfare for loan services to create captioned films for individuals who are deaf or hearing-impaired (Caption Files Act, 1958). Captioned films were made available for nonprofit purposes and then distributed through groups, including state operated schools for the deaf (Captioned Files Act, 1958). The act served to mend a social gap between individuals who were deaf and public and educational ventures, which was crucial to the progression of the technological advancements required to implement captioning (Boatner, 1980).

Training Professional Personnel Act

Early legislation focused on students with special needs was presented through the Education of Mentally Retarded Children’s Act, P.L. 85-926 (1958), which authorized federal assistance programs for teachers who worked with students with exceptionalities (Kleinhamer-Tramill & Fiore, 2003). This act was followed by the Training Professional Personnel Act of 1959, provided additional funding to support teacher training centered on teaching students with exceptionalities (USDOE, 2010b). The Training Professional Personnel Act represented
progressive measures to promote the educational experiences of students with special needs through the development of qualified teachers while also serving to educate school administrators of the diverse needs presented by students with disabilities (USDOE, 2010b).

**Teachers of the Deaf Act**

The *Teachers of the Deaf Act of 1961* secured funding for instructors’ training towards accommodating students who were deaf or hard of hearing (USDOE, 2007). The purpose of the act was to train teachers, pathologists, and audiologists to work with students who have deafness in providing optimal educational supports (Teachers of the Deaf Act, 1961). The act provided funding by implementing grants for accredited public and nonprofit institutions to provide scholarships for teachers and other school personnel to pursue coursework to better support students who are deaf (Teachers of the Deaf Act, 1961). This act regulated the development of an advisory committee to ensure the appropriate education of students who were deaf and ensure program recommendations and scholarships were appropriately managed (Teachers of the Deaf Act, 1961) while also providing direction for educational pursuits and supportive practices related to the education of students who were deaf.

**Elementary and Secondary Education Act**

The *Elementary and Secondary Education Act of 1965* was developed to progress the education of students with special needs by providing “all children significant opportunity to receive a fair, equitable, and high-quality education and to close the educational achievement gaps” (ESSA, 2015, p. 8). The act provided funding for at-risk students through grants for low-income school districts, scholarships for low-income students, the creation of special education centers for students, and grants which provided textbooks and library books for students.
(Brenchley, 2015). Since the Act’s implementation, it has been reauthorized every five years through various amendments and revisions (Paul, 2016).

**Education for All Handicapped Children Act**

Landmark legislation for students with special needs continued throughout the 1960s and 1970s, specifically through the *Education for All Handicapped Children Act of 1975*. The passage of this act signified support should be provided to states to protect and meet the needs of students with special needs while also ensuring resources for the child’s family (USDOE, 2007). This act required that qualifying students with special needs receive the following, “(a) nondiscriminatory testing, evaluation, and placement procedures, (b) education in the least restrictive environment (LRE), (c) procedural due process, including parent involvement, (d) a free education, and (e) an appropriate education” (Yell et al., 1998, p. 225). Further, the act established federal funding for states to educate students with special needs. In order to receive funding, each state had to present a plan outlining the state’s policies and procedures for educating students with special needs (Yell et al., 1998). Currently, the legislation is known as the Individuals with Disabilities in Education Act (IDEA) and was amended in 1997 and again in 2004 (USDOE, 2007).

**Americans with Disabilities Act**

Following public support for individuals with exceptionalities, the *Americans with Disabilities Act (ADA) of 1990* mandated the elimination of discrimination of individuals with disabilities (United States Department of Justice Civil Rights Division, n.d.). The act served as an equal opportunity act through federal representation to ensure individuals had access to: (1) equal employment opportunities, (2) accessibility to purchase goods and services, and (3) ability to participate in government programs and services (ADA, 1990). The ADA echoed the 1958
Captioned Files Act’s legislation through the requirement that telephone and internet companies must provide services which would allow individuals with hearing or verbal disabilities to communicate using a telephone (ADA, 1990). The act also implemented federal non-compliance penalties for employers, facilities, or businesses that did not implement or uphold the accessibility standards, creating a driving motivation to ensure progress for individuals with disabilities (ADA, 1990). Since enacted, the ADA has been revised multiple times, with the last revisions signed into law in December of 2016 (Amendment of Americans with Disabilities Act Title II and Title III Regulations to Implement ADA Amendments Act of 2008, 2016).

**Individuals with Disabilities Act**

The 1990 amendment to the *Education for All Handicapped Children Act* (EAHCA) renamed the legislation to the *Individuals with Disabilities Education Act* (IDEA). It also implemented notable changes. The three most significant changes included: (a) more inclusive, person-first language both in the title, as well as the legislation itself, (b) the identification of students with autism and traumatic brain injury in separate and distinct categories, and (c), required a transition plan for students in IEP by the age of 16 years (Yell et al., 1998). IDEA was amended again in 1997 after successful efforts to further progress the education of students with special needs through the revisions to the IEP process and an increase in expectations of inclusive practices (USDOE, 2007).

The current educational legislation in the United States was enacted as the *No Child Left Behind Act of 2001* and was amended as the *Every Student Succeeds Act of 2015*. This change provided continued support for students with special needs by emphasizing the inclusion of students with exceptionalities with their peers (USDOE, 2020). The legislative development throughout the 1900s and into the 2000s emphasized the progression our nation has made in
establishing equal rights for all citizens. At the 1997 signing of the IDEA, President Clinton gave remarks describing the legislative progression for individuals with disabilities “It has given children who would have never had it, the right to sit in the same classrooms, to learn the same skills, to dream the same dreams as their fellow Americans” (Clinton, 1997, para 9).

**Landmark Court Cases in Special Education**

Through the passage of legislation, individuals with disabilities have been provided with federal representation and protection, although, legislation often lacked clarity for individuals with exceptionalities in legal representation. As such, it was essential to explore the influential court cases that have affected individuals with special needs regarding the delivery of FAPE. The court cases presented in Chapter Two represent the evolution of rights for children with special needs in public schools in the U.S. and provide an overview of the milestones left to secure an appropriate education for all students (see Table 3.1).
Table 3.1. Landmark Special Education Court Cases with Impact of the Case

<table>
<thead>
<tr>
<th>Date</th>
<th>Case</th>
<th>Impact of Case</th>
</tr>
</thead>
<tbody>
<tr>
<td>1954</td>
<td>Brown vs. Board of Education</td>
<td>Implemented the requirement of free and appropriate education for all students (Brown vs. Board of Education, 1954)</td>
</tr>
<tr>
<td>1982</td>
<td>Hendrick Hudson Central School District vs. Rowley</td>
<td>Ruled under the Education of the Handicapped Act schools to provide students with special needs an Individualized Education Plan (IEP) (Board of Ed. Of Hendrick Hudson Central School District, Westchester City v. Rowley, 1982)</td>
</tr>
<tr>
<td>1985</td>
<td>Burlington School Committee vs. Massachusetts Board of Education</td>
<td>Ruled under the Education of the Handicapped Act parents have the right to reimbursement for a child to attend a private university, if the school cannot provide the needed accommodations (School Committee of the Town of Burlington v. Department of Education of Massachusetts, 1985)</td>
</tr>
<tr>
<td>1994</td>
<td>Sacramento City School District vs. Rachel H.</td>
<td>Ruled under the Individuals with Disabilities Education Act a student has the right to receive education alongside their peers (Sacramento City School District v. Rachel H., 1994)</td>
</tr>
</tbody>
</table>

*Brown v. Board of Education*

One of the most historical cases to diversity and inclusion occurred in 1954 through the U.S. Supreme Court case *Brown v. Board of Education*. The court case deemed segregation based on race violated equal education opportunities in public schools (*Brown v. Board of Education*, 1954). The case also served those with special needs through mandates that prevented discrimination based on a student’s disability. As a result, the court case increased the initiatives and programs established to ensure every student received a FAPE.
**Hendrick Hudson Central School District vs. Rowley**

The first special education case brought to the Supreme Court occurred in 1982 through the *Board of Education of Hendrick Hudson Central School District v. Rowley*. The case developed as a result of student Amy Rowley and her challenges in receiving an interpreter funded by the school as an academic accommodation. The Supreme Court ruled even though the student was achieving well, she could not reach her full academic potential without an interpreter. Further, the case ruled a child with disabilities must receive appropriate accommodations through an IEP developed to meet the student’s specific educational needs at the expense of the school (*Board of Ed. Of Hendrick Hudson Central School District, Westchester City v. Rowley*, 1982). An additional ruling for the case provided a basis for the child’s parent, or guardian, the right to “challenge any change in the evaluation and education of the child” (*Board of Ed. Of Hendrick Hudson Central School District, Westchester City v. Rowley*, 1982, para. 1). Further, the ruling upheld the recommendation every child must receive an IEP and the school was not liable to provide every accommodation for the child, only those that ensure the student can receive passing grades and advance in grade level. Although the case served to progress educational opportunities for students with special needs, it did not provide adequate in-depth solutions (*Board of Ed. Of Hendrick Hudson Central School District, Westchester City v. Rowley*, 1982).

**Burlington School Committee vs. Massachusetts Board of Education**

In 1979 Michael Panico, a student who was considered to handicap under the *Education for Handicapped Act*, entered a legal battle with the state of Massachusetts to receive compensation for his private university funding (*School Committee of the Town of Burlington v. Department of Education of Massachusetts*, 1985). Michael attended a Massachusetts public
school; however, he experienced low academic success because his needs were often not met through his IEP. Michael’s low success led to a meeting between Michael’s parents and the school to revise his IEP plan to ensure better services for Michael’s academic needs. As a result, Michael’s parents enrolled him in a private university, Carroll School (*School Committee of the Town of Burlington v. Department of Education of Massachusetts*, 1985). Following the private university enrollment, Michael’s parents disagreed with the public school system surrounding who was responsible for funding the educational expense. The case moved through the court system until reaching the U.S. Supreme Court, where it was ruled the public school was liable for the private school cost for Michael because the public school failed to meet his specific needs (*School Committee of the Town of Burlington v. Department of Education of Massachusetts*, 1985). However, the public school was not required to provide reimbursement for the mid-year transition. Overall, the case served to uphold the right to FAPE for students if a court finds placement in private universities served the student better than the proposed IEP (*School Committee of the Town of Burlington v. Department of Education of Massachusetts*, 1985).

**Sacramento City School District vs. Rachel H.**

The 1994 case of *Sacramento City School District v. Rachel H.* highlighted the continued battle for students with special needs when receiving a public education. As Rachel Holland approached kindergarten, her parents reached out to the school in an effort to ensure she was educated alongside her peers in the regular education classroom. Despite her disability, Rachel’s parents were determined she received an equal education. However, the school district offered placement only in special education classrooms (*Sacramento City School District v. Rachel H.*, 1994). Rachel’s parents then filed legal action under the IDEA, which then reached the Ninth
Circuit Court of Appeals. The court ruled in favor of Rachel to receive education in regular education classrooms and highlighted the social benefit of inclusion (Sacramento City School District v. Rachel H., 1994). The case also served to identify four factors for consideration when determining appropriate classroom placement, including:

(1) the educational benefits available in the regular classroom; (2) the non-academic benefits of interaction between a student with disabilities and those without disabilities; (3) the impact of the student with disabilities on the teacher and other children in the regular classroom; (4) the cost of supplementary aids and services required for mainstreaming the student. (Sacramento City School District v. Rachel H., 1994, p. 1).

Rachel’s case provided additional groundwork for students when receiving appropriate education even as limitations remained for others.

**Endrew F. vs. Douglas County School District**

Through the progression of legal support for students with special needs, ongoing court cases continued to expand representation and provide clarification when ensuring FAPE for all students. The 2017 case of Endrew F. v. Douglas County School District provided insight into the work needed to address students’ legal standing when receiving educational supports. Endrew F. was a student with autism when entering the 5th grade, and his parents identified needed revision in his IEP that promoted his academic and social success. Endrew’s parents placed him into a private institution and then pursued legal action to cover tuition under the IDEA; however, Endrew did not receive the funding as ruled by the Supreme Court (Endrew F. v. Douglas County School District, 2017). The court ruling identified remaining gaps in the educational support systems for students with special needs and clarified schools must ensure a student’s IEP serves to “enable each child to make progress appropriate for the child’s circumstances” (Endrew F. v. Douglas County School District, 2017, para. 4). Determining appropriate progress was evaluated by school officials who also decide the accommodations,
which are most appropriate for the student (Endrew F. v. Douglas County School District, 2017). Throughout each court case, students with special needs have changed the path for the students who follow them while also highlighting the remaining legal battle to ensure free and appropriate education was available for all students.

Legislation in the U.S. demonstrated the movement toward ensuring each student receives a FAPE, but often, gray areas remained when ensuring students’ rights. The listed court cases serve as a representation of prior legal restrictions followed by the progression of legal recognition students gained throughout their battle to receive an equal education. Assurance all students have the opportunity to receive optimal education in public school systems should remain at the forefront through future court cases, with prior cases serving as stepping stones for students in today’s school systems. Value remains in the legal journeys of Amy, Michael, Rachel H., and Endrew F. as each of their experiences served to mark the legal progression and protection of students under the legislative acts that guided the education of America’s youth. The value of the presented court cases should not be overlooked when designing future educational legislation to continue to secure the rights of students with special needs.

**Special Education**

**Special Education in Public Schools**

Special education development in public schools was marked with trials and tribulations through many student’s and families’ experiences in special education. The progression towards inclusion is often described as beginning in 1966 through the establishment of the Bureau of the Education of the Handicapped; under Title VI of the ESEA, Congress established initiatives that served to provide small amounts of federal funding towards the progression of the education of students with special needs (NEA, 2018). Although, much controversy has surrounded the
degree of federal funding allocated to educating students with special needs as compared to the actual cost, especially since the cost of educating students with special needs, on average, is twice that of the regular education student (NEA, 2018). Congress indicated funding coverage of 40% of the excess cost associated with the education of students with special needs under the IDEA. However, the funding has not occurred since 1981, leaving states and districts to mend the funding gaps (NEA, 2018). For example, during the 2017–2018 school year, federal funding left a gap of $21.5 billion through the cost of educating students with special needs resulting in the mandated coverage being paid for by states and districts (NEA, 2018). Louisiana alone had a $298 million federal funding deficit for special education (NEA, 2018). Currently, the National Education Association (2020) continues to advocate for the discrepancies remaining in the legislation addressing the educational rights of students with special needs as full funding serves as one of their top three priorities.

The Louisiana Department of Education introduced the High-Cost Services (2020) grant program, which provides financial support to school systems and schools that served the students with the most demanding needs. The funding was available to schools on a student-specific basis, and funding must be used on an individual student basis. Additional student application requirements include “any student, age 3-21, with an active Individualized Education Plan (IEP) who received services greater than three times the average per-pupil expenditure” (Louisiana Department of Education, 2020, para. 3). For example, during the 2019-2020 school year, the average cost of education per student was $12,512; eligible students of the program exceed an educational cost of $37,536 (Louisiana Department of Education, 2020). Accepted costs within the program can include funding for certified teachers or interpreters, one-on-one or two-on-one paraprofessional support, special transportation cost, personnel, equipment, services, specialized
equipment or supplies, specialized training for staff, and related services. (Louisiana Department of Education, 2020). As the state remains in a budget deficit based on allocated federal funding for students with special needs, resources such as the High-Cost Services grant program assist Louisiana’s efforts to alleviate schools’ special education gaps.

As funding remained problematic for many school systems, special education teacher programs have made progressions in serving students with special needs. The American Academy of Special Education Professionals (AASEP) (2006) described the critical role of a special education teacher when teaching the wide range of students they may work with, including “a variety of different services, modifications, and accommodations in their educational experience” (p. 2). A special education teacher may serve various roles depending on student placement in a self-contained classroom, including that of a resource teacher, an educational evaluator, a consultant teacher, or an inclusion teacher (AASEP, 2006). The National Association of Special Education Teachers (NASET) serves as the leading professional organization in the U.S. serving special education teachers. NASET (2019) presents an online PD series, career information, and additional resources targeted to meet special education teachers’ needs. However, even though professional support efforts, a nationwide shortage of special education teachers remains (Espinoza et al., 2018).

Schools in the U.S. have experienced a shortage of special education teachers through a 17% decline over the last ten years (Samuels, 2018). Reports from the 2015-2016 school year showed 48 states reporting a shortage of special education teachers (Sutcher et al., 2016). Plash and Piotrowski (2006) reported 13.2% of special education teachers leave the profession each year, and the remainder of vacant special education teaching positions are filled by uncertified instructors (Vittek, 2015). Efforts to fill open teaching positions have led to an increase in the
number of individuals completing alternative certification licensure programs. Specifically, Louisiana had a 22% increase in the number of alternative teaching licenses from the 2015-2016 school year to the 2016-2017 school year while also experiencing a decrease of 6% in traditional licensure completers during the same time frame (ECS, 2019). While the shortage of special education teachers remains, alternative certification methods serve to alleviate the need. Further, Louisiana has seen a 24% decrease in traditional licensure programs with a 19% increase in alternative licensure programs (ECS, 2019). In general, traditional certification indicates the individual completed a bachelor’s degree from an accredited university and completed a student teaching component (Shuls & Trivitt, 2013). On the other hand, alternative certification methods vary, but generally include completion of a bachelor’s degree or certification program related to the field of education the individual plans to enter (Shuls & Trivett, 2013). Regardless of the certification method, much work is left to be done in increasing federal funding, retention practices, and PD opportunities for those in the field.

While efforts have been made to fill special education vacancies, the concern of a quality shortage has risen to the forefront (Samuels, 2018, para. 12). Brownell et al. (2005) indicated the lack of research surrounding special education teachers’ preparation practices, creating difficulty when assessing effective preparation methods for those entering the field. Further, Goe (2006) discussed the lack of consistency among special education teacher preparation programs, referring to the degree of programs’ heterogeneity. However, the government has historically implemented regulations through certification methods, as teachers serve as some of the most licensed personnel in the U.S. (Shuls & Trivitt, 2015). An additional component arises as each state sets its independent requirements for special education teachers’ certification, further
reducing uniformity in the field. The United States Bureau of Labor (2020) indicated licensure for each state generally includes the following:

1. the completion of a bachelor’s degree
2. the completion of a student-teaching experience
3. the passing of a background check
4. the passing of a general certification test with specific certifications for more in-depth job requirements.

In addition to curricular requirements, special education teachers are expected to display critical-thinking skills, patience, interpersonal skills, resourcefulness, and strong communication skills (USBOL, 2020).

A special education teacher must fill many roles based on students’ diversity and the specific roles they serve to help students meet their educational goals. Special education teachers’ roles may include curriculum design, classroom instruction, or student advocating (School of Education, 2020). In recent years, through legislative progression and research, special education instructors’ roles have become increasingly complex (Shepherd et al., 2016). Aside from the special education teacher’s designated role, positive impacts on student’s achievement have been linked to the influence of a special education teacher (Bettini et al., 2017). However, the positive role refers to special education teachers and general education instructors through inclusive practices for students with special needs in all classrooms. One of the most prominent roles for special education teachers is the collaboration with general education teachers, as they must work together to ensure each student’s unique needs are met while being educated alongside their peers (Bettini et al., 2017; Shepherd et al., 2016).
The inclusion of students with special needs in general education classrooms represent the advancements of cultural and legislative work over three decades (Hamilton-Jones & Vail, 2014). It is essential to note the start of inclusion in the U.S. was marked by exclusionary practices towards students with special needs before the passage of the Education for All Children Act, as many states had laws which excluded students with special needs from public school education (Dudley-Marling & Burns, 2014). Even as students with special needs gained legal support, they still faced preconceived stereotypes and bias from peers and educators (Boroson, 2017).

**Inclusion**

Inclusion represents the framework by which students with special needs should receive and enjoy the same experiences as their non-disabled peers (Stankovska et al., 2015). Since its introduction, inclusion has spread as a global platform designed to advocate for all students with special needs to receive education alongside their peers in general education classrooms (Peters, 2004). Through qualitative exploration, Leatherman and Niemeyer (2005) described participants’ positive perceptions of inclusion, as one participant shared, “I feel like they have a place in society and it is not somewhere back in a backroom, or basement or whatever” (p. 30).

The concept of inclusion has expanded through the past ten years and has grown substantially from its origins of mainstreaming (Gilmour, 2018). Inclusion represents the full incorporation of a student with special needs into the school community; in contrast, mainstreaming represents the specific amount of time a student with special needs spends in a general education classroom (Morin, n.d.). The term LRE was often associated with inclusion, as the term represents the practice of educating students in an environment that served their educational needs most successfully with the least amount of restrictions (Dudley-Marling &
Burns, 2014). The increase of inclusive practices was shown through 1980 data in which only 31.7% of students with special needs spent more than 80% of their time in general education classrooms as compared to 64% of students with special needs in 2018 spending more than 80% of their time in general education classrooms (USDOE, 2020).

Inclusive practices serve to benefit students through diverse academic settings and building social relationships with other peers (Ziegler et al., 2020). Garrote et al. (2020) highlighted the importance of social acceptance in inclusive classrooms, related to student’s development, with teachers serving to set the classroom expectations among peers. As students with special needs have been found to have fewer friendships, participate less in the classroom environment, and are often less popular than general education students, there was an increased need for extra support to include students with special needs (Pijl et al., 2008). Furthermore, teachers with more positive outlooks on inclusion were reported as having classroom environments with lower levels of student competitiveness and friction and significant levels of student satisfaction than teachers with more negative outlooks on inclusion (Monsen et al., 2014).

Teachers’ intentions surrounding the use of inclusive educational practices have been a significant factor in developing teachers’ attitudes towards inclusion, collective self-efficacy beliefs, and school administrators and special education department’s expectations towards inclusion (Hellmich et al., 2019). Further, Mastropieri and Scruggs (2001) outlined the complex components necessary for successful inclusion, including (a) administrative support, (b) support from local special education personnel, (c) an accepting and positive classroom atmosphere, (d) effective general teaching skills, (e) peer assistance, and (f) disability-specific teaching skills. Schwab and Alnahdi (2020) reported the relationship between teacher self-efficacy and positive
attitudes towards inclusion in applying inclusive practices. However, even though inclusion was beneficial, general education instructors are often expected to implement effective inclusive methods when they lack proper preparation and support through preservice and PD training (LeDoux et al., 2012). In combatting the lack of experience teaching students with special needs, the application of time spent in inclusive classrooms as a preservice teacher helps to develop positive experiences before entering the field (Recchia & Puig, 2011). Additionally, Savolainen et al. (2020) described the amount of time required to change teachers’ perceptions about inclusive practices, and because of the amount of time required, inclusive practices should be introduced at the preservice stage through specified courses which focus on creating a safe and inclusive classroom environment for all students. In addition, preservice programs should also incorporate greater collaboration amongst preservice teachers to promote collaboration between special education and general education preservice teachers before entering the field (Savolainen et al., 2020).

Specific coursework can be instrumental in improving teacher confidence and perceptions of inclusion. For example, McCray and McHatton (2011) reported the development of a course for general education preservice teachers to expand their knowledge and experience in teaching students with special needs which resulted in participant reports of increased confidence when teaching students with special needs, but also indicated a need for more specific knowledge. Similarly, Shippen et al. (2005) conducted a study with preservice teachers to determine their perceptions regarding educating students with special needs in a course dedicated to inclusion. They found at the end of the semester; participants indicated the course had a calming effect due to a perceived increase in knowledge of inclusion methods.
Formal coursework can serve a critical role in creating positive teacher development and can help to identify areas for improvement in teacher preparation programs. A Jobling and Moni conducted a study of preservice teachers when providing students with coursework including experiences and skills related to teaching students with special needs. Their research found despite participants prior experiences with students with special needs, all participants reported a limited understanding of inclusive practices, inadequate perceptions of necessary skills and knowledge, and overall limited experiences (Jobling & Moni, 2004). Mintz et al. (2020) investigated teacher attitudes, perceived knowledge, and self-efficacy surrounding inclusion from the end of teacher’s preservice experience into their first year teaching, resulting in a reported decrease or attitudes, knowledge, and efficacy through the transition.

Inclusion represents the movement of education through a shift toward the inclusion of some learners to most, before eventually reaching the goal of education for everybody (Florian, 2012, p. 280). Simultaneously, inclusion has proven benefits for students through increased mastery of IEP objectives, better overall grades, increased task-orientation, and increased motivation (NCERI, 1994). Although, many proven benefits have been demonstrated through inclusion, many barriers remain, including overall lack of understanding of inclusion, lack of facilities to implement proper supports, and inadequate education and PD for teachers (Cologon, 2013). Despite the deficits, the inclusion rate increases each year, indicating a positive scope for special education in public schools (USDOE, 2020).

**Challenges of Teaching Students with Special Needs**

Each special education student presents a diverse set of needs as well as unique challenges. One of the challenges often reported when teaching students with special needs includes behavior management of students, especially at the high school level (Mastropieri,
2001). When working to alleviate students’ behavioral problems in special education, practices do not always present a clear action plan. In a study that explored behavioral approaches of student teachers when teaching students with special needs, participants identified the need for gaining respect from students, discussed the challenge of diverse behavioral needs in the classroom, and described discomfort implementing harsh interventions as points of difficulty during their experiences (Recchia & Puig, 2011).

A study conducted by Avramidis et al. (2019) found general education instructors reported a higher level of ability to manage the disruptive behavior of students with special needs through inclusive practices as compared to special education instructors. This may result from the availability of general education courses; however, Monsen et al. (2014) found general education teachers to be less likely to include students with behavioral difficulties than regular education students or students with physical disabilities.

Challenges associated with the education of students with special need extends far beyond behavioral problems. Inclusion requires active communication between special education instructors, school administration, and the general education instructor; however, prior studies have identified significant communication deficits (LeDoux et al., 2012). A study conducted to determine the perceptions of special education instructors surrounding the difficulties of homework for students with special needs revealed communication problems with general education teachers to be the most serious concern, including difficulties in initiating communication, untimely communicative response, and low frequency of communication (Buck et al., 1996). Additional barriers described for general education instructors include impact factors in classroom management, school structure, and instructional delivery methods (Darrow, 2009). Preservice general and special education teachers shared concerns of communication
when entering the field, as respondents from each group indicated the desire for the development of an open line of communication with the other, which would allow for differences in perspectives when working to meet the needs of their students with special needs (DaFonte & Barton-Arwood, 2017). Robinson & Buly (2007) researched communication barriers between general and special education instructors while teaching students with special needs and discovered special education terminology differences often evolve, especially related to diagnosis, evaluation vs. assessment, and explicit instruction vs. direct instruction. Additionally, a study conducted by Keefe identified the challenges of co-teaching at the high school level, including barriers to successful collaboration as well as the importance of communication as an important value between the general and special education instructors (2004).

**Strategies**

The inclusion process may create a “diverse and healthy environment for learning,” but it can also become frustrating for unprepared teachers (Hammel, 2004, p. 34). However, the use of diverse strategies proven to benefit students with special needs can lead to tremendous success for both the teacher and student (Hammel, 2004). Teachers are expected to implement accommodations based on both curricula and instructional platforms (Bohning & Stefanich, 2001). When implementing student accommodations, the educator must also develop assessments for students based on the students’ current needs and identify areas for adjustment (Wheatly et al., 2002). Further, accommodation strategies should be prefaced by a discussion with the student to assist in developing open communication. Ideally, the instructor should talk with students to determine how the student may be best served, rather than implementing strategies from an assumptive position (National FFA Organization, 1996).
Specific disability types may cause a need for specific or unique strategies depending on individual student needs. Research to understand specific inclusion methods for students with autism spectrum disorder have found benefits for developing strategies created on an individual student basis, such as the removal or reduction of specific classroom characteristics which might have triggered undesirable behavior, self-management strategies, and having the student set individualized goals or reflection of their behavior (Crosland & Dunlap, 2012). Further work conducted concerning the inclusion of students with autism, identified positive benefits in educating student’s peers surrounding the autism diagnosis, active communication between general education teachers and special education teachers related to the students’ specific IEP, as well as open communication between school faculty, the general education teacher, and the students’ parents to share the student’s specific goals and strategies (Able et al., 2015).

Accommodations provided individually in an individual or group setting can often benefit multiple students in the classroom (Bohning & Stefanich, 2001). Leatherman and Niemeyer (2005) found general education teachers felt it was essential to take the time to understand the needs of each student before implementing accommodations, as the implemented accommodations were perceived to be more effective and valued as a result of thoughtful planning. When implementing multiple accommodations, the teacher often described a need for evaluation methods to determine if those accommodations are effective. Some commonly utilized methods to effectively evaluate learners with special needs included authentic performance-based assessments, portfolio assessments, student-centered methods of observation, and document analysis (Salend, 2000).
Special Education in Agricultural Education

Though legislative efforts have sought to support students’ educational needs, SBAE instructors have still encountered challenges when providing academic support to students with special needs (Dormody et al., 2006). Pirtle (2012) identified an immediate need to ensure SBAE classrooms provide strategies and accommodations for the increasing number of students with disabilities. Giffing et al. (2010) found of the 78 SBAE instructors surveyed as part of their study, 90% indicated an understanding of the concept of inclusion, however, only 76.9% reported being in favor of having students with disabilities in their classes (Giffing et al., 2010). More positive perceptions of inclusion have been developed through teacher preparation programs, including student accommodations that can be implemented once the preservice teachers enter the field (Johnson et al., 2012). These perceptions can cause retention challenges as beginning agriculture teachers reported implementing accommodations for students with special needs as a major problem they faced when entering the profession (Aschenbrener et al., 2010; Giffing et al., 2010; Myers et al., 2005).

In 1996, the National FFA Organization published Bridging Horizons, a guide that provided advisors with strategies to involve students with special needs in their FFA programs. The guide highlighted the benefits of inclusion for students with special needs in agricultural education, including increased self-esteem and self-reliance through their involvement in the program (National FFA Organization, 1996). Bridging Horizons addressed accessibility in agricultural education through two formats, building or facility accessibility and program accessibility. The building or facility accessibility in agricultural education represented the accessibility to a structure, such as a school barn, shop, or greenhouse, utilized by the agriculture program. In contrast, program accessibility described the accessibility of basic
agricultural education programs or activities for students with special needs through the program’s entire scope (National FFA Organization, 1996). For successful inclusion in agricultural education, both the program facilities and the general education program must be addressed when serving students with special needs (Henderson, 2001).

**Agricultural Education Three-Circle Model**

Through the agricultural education three-circle model of classroom instruction, experiential learning, and leadership development, agricultural education students are presented with a variety of skillsets throughout the agricultural education experience (NAAE, 2021c). The classroom instruction components of agricultural education present a unique science and mathematics content application paired with hands-on laboratory content. (Bowling & Ball, 2020). Because of the intensive science content, many schools allow some agricultural education courses to count toward students’ science credit requirements. The National Research Council first made this recommendation in 1988 (Johnson, 1996). This trend can be particularly helpful as Ricketts et al. (2006) found students who participated in agriscience education had higher science scores than students who did not participate in agriscience courses.

Agricultural education also provides benefits through experiential learning, and applying skills learned in the classroom (Phillips et al., 2008). Experiential learning is provided in agricultural education through classroom experiences. However, it is also provided by developing the student SAE project, where students apply knowledge learned in the classroom to real-world experiences in entrepreneurship, placement, research, or service learning (National Council for Agricultural Education, 2017). SAE is defined as a “student-led, instructor supervised, work-based learning experience that results in measurable outcomes within a predefined agreed upon set of Agriculture, Food, and Natural Resources (AFNR) Technical
Standards and Career Ready Practices aligned to a career plan of study” (National Council for Agricultural Education, 2017, p. 2). Student SAE involvement has shown a positive correlation to student development of 21st century skills (Thiel & Marx, 2019) as well as skill development, including responsibility, critical thinking, accountability, industry connection, and time management resulting from a student’s SAE participation (Robinson & Haynes, 2011). However, the successful implementation of SAE is very teacher dependent, with student success being linked directly to available facilities at the school, teacher encouragement, and frequency of help from the teacher (Lewis et al., 2012).

Along with student SAE involvement, FFA serves to build student career and leadership development skills and improve students’ overall employability when entering the workforce (Copeland et al., 2020). However, while SAE involvement has experienced a decrease in recent years, FFA enrollment has shown a continual increase (Lewis et al., 2012; Sheehan & Moore, 2019). Rose et al. (2016) found that many students agreed FFA made their high school experience more enjoyable and FFA was among their favorite school activities. Students have also indicated benefits to their self-esteem, engagement in meaningful opportunities and increased opportunities to reach personal goals due to their FFA participation (Croom & Flowers, 2001).

**Inclusion in the Agricultural Education Magazine**

The Agricultural Education Magazine is as a professional publication for the agricultural education community and serves “teachers, undergraduate, and graduate students, teacher educators, supervisors, administrators, and others interested in agricultural education” (NAAE, 2020b, para. 3). The Agricultural Education Magazine has been a longstanding professional communication source for agriculture teacher, dating back to 1929. While reviewing past issues,
it is essential to note the vocabulary and terminology used in each issue description was common to the publication’s time. Topics related to special education in agriculture presents insight into the history and climate in agricultural education. Prominent themes of legislation, terminology, perceptions towards students’ inclusion, and inclusion strategies for students with special needs in agricultural education are present in each selected article. An in-depth exploration of the published issues surrounding exceptional students was provided below (see Table 4.1).

Table 4.1. Theme Issues Related to Special Education in the Agricultural Education Magazine following the Enactment of *Vocational Education Act*

<table>
<thead>
<tr>
<th>Date</th>
<th>Issue Title</th>
<th>Articles</th>
</tr>
</thead>
<tbody>
<tr>
<td>September 1968</td>
<td>Agricultural Education for Persons with Special Needs</td>
<td>8</td>
</tr>
<tr>
<td>May 1975</td>
<td>Teaching the Disadvantaged and Handicapped</td>
<td>8</td>
</tr>
<tr>
<td>February 1985</td>
<td>Vocational Agriculture and the Handicapped Student</td>
<td>6</td>
</tr>
<tr>
<td>December 1993</td>
<td>Teaching Academically Disadvantaged Students</td>
<td>5</td>
</tr>
<tr>
<td>May / June 2012</td>
<td>Serving Students in Agricultural Education with Special Needs</td>
<td>8</td>
</tr>
</tbody>
</table>

*Note.* †Number of articles in issue related to students with special needs

**Agricultural Education for Persons with Special Needs**

In the 1968 issue, J. Robert Warmbrod presented the opinion that students with special needs were onlookers in the SBAE programs rather than active participants. The issue was released followed the 1965 ESEA, which increased state funding for students with special needs. ESEA followed the *1963 Vocational Education Act*, which further increased funding and expansion of vocational education. Dr. James Warren presented a guest editorial that provided insight into the number of students with special needs enrolled in SBAE in the year 1967, accounting for 4,320 students, which marked an increase in enrollment of students with special needs in the profession (Warren, 1968). The issue highlighted educational practices being
implemented in agricultural education when serving students with special needs. An article written by James B. Hamilton (1968b) suggested guidelines for educating students with special needs in vocational agriculture, including:

(1) identify the potential students early – before they enter high school, (2) gear academic courses to the interest and ability of the student enrolled, (3) employ teachers who have special training or interest and ability to work with youth with special needs, and (4) develop unique teaching materials for use in vocational agriculture classes for youth with special needs (p. 74).

Agriculture teachers expressed challenges of teaching students with special needs and the perception that programs represented a dumping ground for students deemed unfit for general education courses (Faulkner, 1968, p. 57). An article presented by Harlan and Grimes (1968) shared the development of a program for slow learners and argued students should be referred to as students with “special needs” and noted common characteristics of students in the program including low reading ability, limited vocabulary, and slowness in the performance of the intellectual task (p. 58).

Further, the issue highlighted methods of identifying “educationally handicapped students” to create positive supports to provide aids for those students to best prepare them as functioning members of society (Hamilton, 1968a, p. 66). The issue highlighted efforts of inclusion in the professional agricultural industry during the 1960s. Much of the presented attitudes are still present today, in particular as stated by Warren (1968):

from what vocational agriculture has done, is presently doing, and plans to do, there is ample evidence that the challenge has been accepted and that serving youth with special needs is of particular concern to vocational agricultural educators and administrators (p. 56).
Teaching the Disadvantaged and Handicapped

This 1975 issue was released with notes from Samuel M. Curtis and J. C. Barrett, both serving as guest editors. Curtis (1975) begins the issue with a discussion of the possibilities and concerns shared throughout the vocational agriculture field at the time of issue release, with one consistent concern being “teaching students with special needs degrades the quality of instruction provided [to] other students” (p. 243). The issue was released the same year as the EAHCA of 1975, which mandated FAPE for all students as well as heightening pressure to provide adequate educational support for students in agricultural education. Bobbitt (1968) discussed the developing concept of mainstreaming disadvantaged and handicapped students in regular education programs and using mainstreaming as a response to meeting educational legislation and the perceptions of educators through the process. The article demonstrates the progression of terminology in vocational education with the two prominent references for students with special needs as handicapped or disadvantaged, showing more continuity in the field compared to the 1968 issue.

The perceptions of benefits for handicapped or disadvantaged students in vocational education were highlighted throughout the issue. Curtis (1975) discussed vocational education’s potential impact and value when serving disadvantaged and handicapped students by providing them with relevant workforce training they may not otherwise develop. Cicchetti (1975) followed the trend of workforce development by providing recommendations for preparing handicapped students to enter the workforce through specific social and technical skills, which include “social responsibility to co-workers, reliability to an employer, skills needed for productivity, and good work habits” (p. 247). In this article, methods were described to instill these skills in students, including the development of exploratory programs that ensured hands-
on application of agricultural industry jobs and provided specific skills on a case-by-case basis (Cicchetti, 1975). The issue presented benchmark experiences through the value of vocational education in career preparation and the integration of handicapped and disadvantaged students into the regular classroom space through mainstreaming practices.

**Vocational Agriculture and the Handicapped Student**

Larry E. Miller served as the editor for the 1985 issue, published following the 1984 Carl D. Perkins Vocational Education Act. This Act designated direct funding for vocational education programs specified to work with students with special needs. The issue presented ways to meet the needs of disadvantaged and handicapped students through “needed teacher qualities,” including having a love for teaching, creativity, enthusiasm, and adaptability (Downey, 1985, p. 5). Bruwelheide (1985) identified factors that should be considered when developing equipment and aids for students with special needs, including economic feasibility, accessibility of materials, timely construction, and no impediment on regular education students’ use of equipment. Collins and Mohr (1985) presented an exploration of the importance of attitudes towards handicapped students in vocational education while increasing mainstreaming practices and how the attitude presented toward the student by the instructor will directly impact student performance. The issue presented continued use of terms *handicapped* and *disadvantaged*, although mainstreaming perceptions continued to be presented in a mostly positive light in the 1975 issue.

This issue also described mainstreaming practices, including open communication and support from the special education teachers, reviewing class materials, and ensuring students’ preparation for class (Toole & Eddowes, 1985). Even through legislative mandates, the attitudes of some agricultural teachers were an “uphill battle” to ensure students with special needs were
provided with resources that met their needs, as the placement of students with special needs into general education courses did not automatically ensure a quality education for the student (Scanlon & Baggett, 1985, p. 4). Bruwelheide (1985) presented challenges for adapting equipment for handicapped students based on the responses of vocational education teachers in Montana, where teachers reported a lack of preparation to work with special education students, restrictions of mechanics/shop experiences for students with physical handicaps, and the reluctance of teachers to attempt accommodations for these students due to a lack of professional support. Overall, the issue provided a description of the progression made in the field to identify needed areas of support and growth in meeting all students’ needs. The issue presented common usage of mainstreaming practices, though gaps remained in a unified positive perception. However, the legislative push serves as a motivator for educators during the time. The issue provided vital insight into a formative time for agricultural education.

**Teaching Academically Disadvantaged Students**

In the 1993 issue, Ed Osborne, who served as editor, recognized the irony in which students who often need attention and special instruction are the last to receive it. Osborn (1993) indicated academically disadvantaged students performed better in agriculture classes compared to traditional academic courses, with the increase in performance attributed to the perceived benefits of more concrete and application-based learning procedures. The issue was released three years after the signing of the ADA of 1990, which provided legal standing to combat the discrimination of individuals with disabilities across public platforms. The issue demonstrated greater progression from the 1985 issue by using more consistent and inclusive verbiage for identifying students with special needs in the field through the use of the terminology *academically disadvantaged* and *special populations*, an effort not presented in
prior issues. Although, the more precise terminology was thought to be a result of mounting legislative pressure directly discussed through an article by Repps and Dormody (1993) which expressed the renewed drive towards inclusion through an overview of current legislation, specific exceptionality categories, benefits of inclusion, and the growth of research and teacher preparation surrounding the topic.

Jewel (1993) presented a list of 36 teaching practices for agricultural educators to apply when teaching the academically disadvantaged, including “challenge the learner’s interest and abilities, involve students in the planning process, and the use of concrete, tangible demonstrations rather than verbal and abstract” (p. 11). Furthermore, Iverson (1993) presented additional methods of teaching students with special needs, including setting goals for students, involvement and active communication with other school officials, and creating a climate that promotes learning for all. Iverson also called for a change of dialogue surrounding students with special needs in agricultural education. Similarly, Dormody and Repps (1993) suggested adjusting the classroom or laboratory setting to ensure accessibility for all students, agriculture teacher attendance to students’ IEP meetings, and the partnering of general education students with special needs. The concept of agricultural education serving as a dumping ground initially arose in the 1986 issue. However, it reemerged in 1993 as Iverson expressed the responsibility to educate all students, but also indicated program integrity may decline through a disproportionate student population. The issue described the surge of interest in educating all students while highlighting the variability in perceptions still present in the field. The issue marked a milestone in agricultural education, even if the motivation stemmed from legislation, for the increased efforts to provide inclusive educational experiences for all students.
Serving Students in Agricultural Education with Special Needs

After a large gap in issue themes of exceptional students, the 2012 publication showed the bounds of progression in agricultural education. Dr. Harry N. Boone served as the editor and provided the following remarks “as agricultural education teachers, it is our responsibility to provide each and every student a quality education regardless of their needs” (2012, p. 2). The issue was the first to use person-first language when referencing students with special needs in agricultural education. The terminology students with exceptionalities and students with special needs were utilized throughout the issue. Further, Greaud and Scherer (2012) presented a chart that provided examples of person-first language. Although the issue did not follow any vital legislation of the time, it did follow a recent surge of publications in the Journal of Agricultural Education centered on students with special needs (Andreason et al., 2007; Aschenbrenner et al., 2010; Easterly & Myers, 2011; Faulkner & Baggett, 2010; Hoerst & Whittington, 2009).

Grudens-Shuck (2012) identified a “learning curve” when developing strategies to serve students with special needs in agricultural education (p. 4). Giffing and Warnick (2012) shared the recommendation for inclusion strategies in agricultural education through the three-circle model areas. Specifically, they identified the need for using a partner-based approach in the classroom, ensuring SAE programs build engagement and develop an individualized leadership plan for student FFA involvement. Furthermore, Greaud and Scherer (2012) expressed the importance of agricultural teacher involvement in student IEP meetings, specifically because the agricultural classroom presented diverse requirements that may require additional accommodations to promote student success (Greaud & Scherer, 2012). Chris Livengood (2012) shared partnering strategies when conducting a welding lab with students with special needs and general education students and discussed how the strategy benefitted both groups.
De Lay and Burden (2012) shared strategies by which agriculture teachers could better partner with parents, including home visits, designating student-specific tasks, maintaining the classroom as a space of peace, and open communication with other school officials concerning the student’s specific needs. By presenting diverse inclusion strategies with the agricultural education classroom, the issue presents a cohesive perception of welcoming students with special needs instead of previous issues where all perceptions did not remain positive. Overall, the issue showcases diverse methods that may be implemented when meeting all students’ needs through a unified front from the agricultural education field.

An analysis of The Agricultural Education Magazine provides a glimpse into how the Agricultural education profession has changed over time. Specifically, the magazine demonstrates how teacher perceptions, special education trends, and the general concept of inclusion in the agricultural education total program model have changed over time. An in-depth view of the journey to inclusion in agricultural education can be identified by exploring how themes in popular publications change over time.

**Conceptual Frameworks**

This investigation utilized two conceptual frameworks of the Borich (1980) model and sensemaking (Weick, 1995) to conceptualize and guide the investigation. The frameworks are presented in greater detail below.

**Borich (1980) Model**

Teacher perceptions often guide the success of inclusive practices. As such, the conceptual framework grounding this investigation was the Borich needs assessment model, created by Dr. Gary D. Borich in 1980. The model outlines critical components that define the format and quality of data collection regarding PD needs (Borich, 1980). Therefore, it was often
used to describe teachers’ training needs by identifying discrepancies between the perceived relevance compared to an individual’s professional knowledge. Further, training needs are defined as “a discrepancy between an educational goal and trainee performance in relation to this goal” (Borich, 1980, p. 39). Additional analysis of needs can also be determined by individuals’ skill level in comparison to their desired skills. The model measures “behaviors, skills, and competencies” while comparing those benchmarks against the implemented goals of the program (Borich, 1980, p. 39). Difference between the two allows for the analysis of the program’s effectiveness. In particular, the model was composed of five steps

1. Development of a list of competencies;
2. Application of the developed survey, which was composed of developed competencies;
3. Ranking of competencies;
4. Analysis of competencies with the context of the training program;
5. Revision of program or competency (Borich, 1980, pp. 39–41).

Typically, questionnaires that utilize the Borich model are formatted through a two-step response in which participants rank their perceived competency, relevance, and level of competence. Competence statements are further broken down into categories of knowledge, performance, and consequence. The knowledge competency includes factors such as accurately remembering, summarizing, or conveying a specified behavior or procedural processes through pen and paper presentation (Borich, 1980). Performance competencies determine if the individual can effectively perform the desired skill in a real or artificial environment under supervision (Borich, 1980). Finally, consequence competencies represent the ability to direct learning from participants through specific classroom behavior (Borich, 1980). Below, is a visual representation of the Borich (1980) conceptual framework (see Figure 1.1).
Karl Weick introduced sensemaking in 1969, he later defined the concept as “the making of sense” (Weick, 1995, p. 4). Sensemaking takes place when an individual is presented a large amount of information about a new topic, such as preservice education, where the individual processes the information to ultimately produce an action response (Weick, 1995). The concept represented the mechanisms an individual may utilize when processing a presented concept (Weick, 1995). Further, the reduction of the concept results from the three stages of notice, interpretation, and action (Lycett et al., 2016). First, notice occurred when the individual identified the presented information, followed by interpretation when the individual processed the presented information (Lycett et al., 2016). Lastly, the action resulted from the individual’s response to the information after application of interpretation, where an individual’s prior beliefs may influence their interpretation (Weick, 1995). Through an exploration of participants’ sensemaking, a better understanding can be established when describing the prior education received by participants centered on teaching students with special needs and the PD needs of participants focused on teaching students with special needs.
CHAPTER III. METHODOLOGY

Purpose of the Study

The purpose of this mixed methods study was to describe Louisiana SBAE teachers (a) previous education regarding teaching students with special needs and (b) desired professional development opportunities regarding accommodating students with exceptionalities. A convergent parallel mixed methods design was utilized by collecting both quantitative and qualitative data, where data were independently collected and analyzed before being merged. In this study, quantitative data collected was aligned through the Borich (1980) model to describe participants’ professional development needs when teaching students with special needs. The quantitative data also described participants’ prior education centered on teaching students with special needs, while qualitative interviews explored participants’ prior experiences and professional development needs when accommodating this student population. The reason for collecting two forms of data was to converge the data and establish a more in-depth description than would be achieved through a singular data form.

Research Objectives

1. Describe the education received by Louisiana SBAE teachers regarding students with exceptionalities.
2. Describe discrepancy between relevance and ability of Louisiana SBAE teachers regarding accommodating students with a disability.
3. Describe the discrepancy between relevance and ability of Louisiana teachers regarding inclusion strategies for students with special needs in SBAE.
Institutional Review Board

I complied with federal guidelines to conduct ethical research by gaining approval to conduct this investigation from the Louisiana State University AgCenter Institutional Review Board (AgCenter IRB). The IRB application included the following information, which explicitly described the study’s functions – the project title, the project research objectives, the project purpose, the target population descriptors, the web-based survey instrument, and the interview protocol. Following application submission, the investigation was granted exempt status (IRBAG-20-0028) on October 5, 2020 (see Appendix A).

Role of the Researcher

This research study was approached through a pragmatic lens as I employed a mixed methodology consisting of both qualitative and quantitative date to meet the investigation’s guiding objectives (Creswell, 2007). I collected each strand through separate qualitative and quantitative methods and my association with the data varied throughout each phase. For example, I collected the quantitative strand through survey-based online interactions with participants, followed by statistical analysis, at the same time, the qualitative data collection occurred through in-depth interviews with individuals. Therefore, I maintained an interpretive role as I sought to gain a deeper understanding of participants’ education or training, PD experiences, and perceptions about teaching students with special needs Consequently, I engaged differently with each strand of data.

It was also important to acknowledge my prior experiences and biases that influenced my interpretation and resulting outcomes of this investigation. During the completion of my bachelor’s degree in agricultural education, I taught students with special needs as a component of my student teaching practicum. During my graduate work, my research primarily focused on
accommodating with students with special needs in SBAE. As part of this work, I assisted with a course for undergraduate students focused on teaching diverse learners and co-facilitated a PD session for SBAE instructors in Louisiana to better support this student population. It was vital to note I had prior interactions with some of the participants in the qualitative strand of this study during my assistance in the PD session. The session was conducted virtually because of the COVID-19 global pandemic, however, despite not meeting participants in person, my prior interaction may have influenced their responses during the qualitative strand of the study. To mitigate bias, efforts were made to triangulate findings and ensure qualitative quality through data collection.

**Mixed Methods Research**

Because mixed methods research is a relatively new practice, a distinct definition of the methodology has yet to be presented, however, Tashakkori and Creswell (2007) provided one of the most common definitions used in the paradigm, “research in which the investigator collects and analyzes data, integrates the findings, and draws inferences using both qualitative and quantitative approaches or methods in a single study or a program of inquiry” (p. 4). Consequently, mixed methods research provides an in-depth analysis, which can be employed when one research approach may be insufficient (Creswell & Plano Clark, 2018). Creswell and Plano Clark (2018) described quality mixed methods are sharing the following core characteristics: (1) collection and analysis of both qualitative and quantitative data, (2) integration of qualitative and quantitative data strands, (3) organization of data into a logical manner, and (4) the use of a theory or framework to ground the investigation’s logic. In this investigation, I used a mixed methods approach because it helped offset the weakness of my quantitative stand while also provide more completeness and credibility to the study (Bryman,
2006). For example, in the quantitative strand I had a low response rate; therefore, through the inclusion of qualitative data I was able to offset this limitation (Bryman, 2006).

Research Design

The investigation utilized a convergent parallel mixed methods research design, which occurs when qualitative and quantitative data are simultaneously collected, analyzed, and merged to provide greater insights into a phenomenon (Creswell & Plano Clark, 2018; Tashakkori & Teddlie, 1998). Further, I used the parallel-database variant for this study (Creswell & Plano Clark, 2018). In the current investigation, the strands had equal importance. Following strand analysis, the Borich’s (1980) framework was employed as a comparative tool (Creswell & Plano Clark, 2018). The quantitative and qualitative collection and analysis methods are presented further in Figure 2.1, provided below.
Figure 2.1. Procedural Design of the Investigation’s Procedures
Description of the Population and Procedures

I defined the target population of this study as individuals who taught SBAE courses in Louisiana during the 2020-2021 school year, and who were traditionally or alternatively certified. Efforts were made to ensure adequate access to the target population through multiple forms of contact. Initial contact was made with Louisiana FFA State Staff to acquire a complete list of SBAE instructors in Louisiana ($N = 267$). The Louisiana FFA state staff provided demographic information of the target population, which identified SBAE teachers in the state, of which, 179 (67%) were male, and 88 (33%) were female. The target population also was also identified by the age range of SBAE instructors at the time of data collection in Louisiana with 56 (21%) teachers reporting they were 20–29, 63 (23.6%) were 30–39, 74 (27.7%) were 40–49, 57 (21.3%) were 50–59, 14 (5.2%) were 60–69, and three were 70 years or older. Regarding years of teaching experience, 110 (41.2%) had taught one to five years, 41 (15.45%) had taught for six to ten years, 50 (18.7%) had taught for 16 to 25 years, 25 (9.4%) had taught 25 years or more, and five did not indicate their number of years teaching. Finally, the target population also indicated their highest degree earned, in which three (11%) completed an Associate’s degree, 174 (65.2%) completed a Bachelor’s degree, 83 (31.1%) completed a Master’s degree, four (1.5%) completed a Doctoral degree, one (0.4%) did not complete a degree, and two (0.7%) did not indicate education obtained.

Quantitative Procedures

I employed Dillman’s tailored design approach to reach the target audience through email distribution (Dillman et al., 2014). Following initial contact, the target population received an email explaining the purpose of the study before a separate email was sent with the invitation to participate in the study. Seven reminder emails were also sent over the course of eight weeks.
through the Qualtrics™ online software system (Dillman et al., 2014). I also made additional efforts to reach the target population through the inclusion of the survey link on weekly update emails from Louisiana FFA State Staff on the Louisiana FFA Listserv. The survey was a component of the weekly Louisiana FFA listserv emails for six weeks. An additional email with the survey as the only item in the email was sent by Louisiana FFA state staff through the Louisiana FFA listserv. The use of personalized email distribution was used to alleviate coverage error in the study (Dillman et al., 2014). Following email outreach, I also contacted participants through phone calls asking them to complete the survey. Further, I also provided incentives of three $25 gift cards to three participants through a random drawing.

Nonresponse error of the investigation was approached through a comparison of early to late respondents. For the purpose of this comparison, early respondents were the first 25% of participants \(n = 18\) to complete the survey and the late respondents were the last 25% of participants \(n = 19\) to complete the survey. Respondent groups where then compared through a t-test to compare participant demographic of age, gender, licensing certification method, and years teaching (see Table 5.1). Of the compared demographic information, no statistical difference was present in age, years teaching, or licensure certification method, but a statistical difference was present in the genders of those in the two groups, with a higher degree of male participants in the late respondent group. Prior literature has shown male participants being more likely to complete a survey following a reminder email, which aligns with males falling in the late response rate of this investigation and responding after multiple reminder emails were sent (Saleh & Bista, 2017). However, due to discrepancies between early and late respondents, it was determined the results from this investigation were not generalizable to participants outside of this investigation (Linder et al., 2001).
Table 5.1. Nonresponse Error Statistics for Investigation

<table>
<thead>
<tr>
<th>Variable</th>
<th>Early respondents $(n = 20)$</th>
<th>Late respondents $(n = 20)$</th>
<th>$t$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>39.95</td>
<td>37.75</td>
<td>0.057</td>
<td>0.955</td>
</tr>
<tr>
<td>Gender&lt;sup&gt;a&lt;/sup&gt;</td>
<td>1.75</td>
<td>1.30</td>
<td>3.111</td>
<td>0.004&lt;sup&gt;*&lt;/sup&gt;</td>
</tr>
<tr>
<td>Licensing certification method&lt;sup&gt;b&lt;/sup&gt;</td>
<td>1.90</td>
<td>1.45</td>
<td>1.582</td>
<td>0.122</td>
</tr>
<tr>
<td>Years teaching</td>
<td>13.00</td>
<td>13.53</td>
<td>-0.186</td>
<td>0.854</td>
</tr>
</tbody>
</table>

*Note.* <sup>a</sup>Gender was coded: 1 = male, 2 = female <sup>b</sup>Licensing certification method was coded: 1 = traditional licensure through bachelor’s degree, 2 = traditional licensure through master’s degree, 3 = alternative licensure by any other means. *Statistical Difference

**Quantitative Strand**

**Instrument Design**

Using the Borich (1980) model, I created an instrument which consisted of two primary constructs in addition to demographic information (see Appendix B). The two constructs presented participants with 37 double-matrix competencies containing disability types and inclusion strategies as well as skills in regard to the inclusion of students with special needs. Participants were also asked to respond to each competency twice on a four-point scale in which the participants rated their self-perceived relevance of the competency as well as their ability within the competency. I selected a four-point scale to eliminate the participant’s selection of a median score, thus eliminating the neutral response (Croasum & Ostrom, 2011; Garland, 1991). The first construct focused on 11 competencies and asked participants to indicate their relevance and degree of competence when accommodating disabilities recognized by IDEA. These competencies included: Attention Deficit Hyperactivity Disorder (ADHD), autism spectrum disorder, blindness or visual impairment, deaf or hearing impairment, emotional or behavioral disorder, intellectual disability, orthopedic impairment, other health impairments (not including...
ADHD), specific learning disabilities, speech or language disabilities, and traumatic brain injury. Due to the prevalence of ADHD in the general student populations, it was removed from Other Health Impairments and provided with its own category within the instrument. Of the 13 identified disability categories in the IDEA (2004), two disability types of multiple disabilities and deaf-blindness were not included due to the low occurrence of these disability types in the public education institutions where the participant population taught (Louisiana Department of Education, 2019). To ensure clarity, I defined relevance as how important it was for teachers to understand the disability type and the resulting educational impacts of a student who possessed the disability. Competence was described as the participant’s ability to accurately and efficiently execute accommodations for a student who possessed the disability. The second construct included 27 competencies regarding inclusion strategies for students with special needs in SBAE, which were sourced from instruments created by Kessell (2005) and Stair (2009). Following permission (see Appendix B), I derived the survey items from two prior instruments employed by Dr. John Kessell (2005) and Dr. Kristin Stair (2009). Kessell’s (2005) study explored (N = 274) SBAE student teachers’ in the southern region of the U.S. and analyzed their confidence and knowledge when teaching students with special needs. Similarly, the instrument created by Stair (2009) identified the confidence and instructional strategies of SBAE instructors from six randomly selected states, which included Delaware, Iowa, Kentucky, Tennessee, Texas, and Washington (N = 208).

Following the two constructs, participants also completed demographic information including age, gender, highest degree earned, licensure method, participation in PD events focused on accommodating students with special needs, which platform participants were most likely to attend PD centered on teaching students with special needs, relationship with an
individual with special needs, time spent with a person with special needs outside of an academic setting, and years teaching. The survey concluded with two questions related to the attainment of PD. First, participants indicate the importance of PD centered on teaching students with special needs using a four-point scale with one representing no importance, two representing somewhat important, three representing moderately important, and four representing very important. The second question asked participants to indicate the likelihood of attending a PD event focused on teaching students with special needs on a four-point scale, with one being very unlikely, two being somewhat likely, three being moderately likely, and four being very likely.

Pilot Study

Prior to instrument distribution, I conducted a pilot study with SBAE instructors in the state of Mississippi, which was selected due to the similarity of demographics as compared to SBAE instructors in Louisiana. The pilot study included the developed instrument and an open-ended question, which allowed participants to describe their concerns or areas of confusion while completing the questionnaire. The pilot study was distributed through a Listserv comprised of all SBAE instructors in Mississippi (N = 139). The pilot study data collection concluded with twenty-five responses (n = 25). Reliability was established by Cronbach’s alpha through analysis for each item of the two constructs which consisted of three data grouping, resulting in six total reliability scores. The reliability scores included: construct one—grouping one, importance (α = 0.922) and competence (α = 0.896); construct two—grouping two, importance (α = 0.944) and competence (α = 0.908); and grouping three, importance (α = 0.973) and competence (α = 0.930). Therefore, the reliability scores indicated strong reliability. Content validity was established through an expert panel review of three agricultural education faculty members, who determined the instrument to be valid.
Quantitative Population

The target population of this study was SBAE instructors in the state of Louisiana ($N = 267$). Of those that chose to participate ($n = 102$), 22 did not complete the first grouping, an additional seven did not complete the second grouping, and eight did not complete the last grouping. Overall, completed responses were collected for a final sample size of 64, a response rate of 24%. Through an exploration of empirical research of response rate, the studies response rate was perceived to be influenced by multiple factors such as survey fatigue combined with external stress factors the occurred during the fall 2020 semester, the period of data collection, which included the COVID-19 pandemic as well as the occurrence of an unprecedented hurricane season which resulted in the landfall of five hurricanes in Louisiana (Baruch & Holtom, 2008; Plaisance & Santana, 2020). Through data analysis methods of Mean Weight Discrepancy Scores (MWDS), I deemed it applicable to report each grouping based on the sample size population that completed each section of the instrument.

Quantitative Demographics

Demographic information of participants was collected at the end of the survey, which included participants (a) age, (b) gender, (c) highest degree earned, (d) licensure method, (e) participation in PD events focused on accommodating students with special needs, (f) platform participants most likely to attend PD centered on teaching students with special needs, (g) relationship with an individual with special needs, (h) time spent with a person with special needs outside of an academic setting, and (i) years teaching (see Appendix F).

Respondents consisted of 31 (48.40%) males and 33 (51.60%) females (see Table 6.1). Participants were then asked to indicate their highest degree earned, which revealed 35 (54.70%) obtained bachelor’s degree, 23 (35.90%) had master’s degrees, four (6.30%) possessed a
specialist or sixth-year degree, and two (3.10%) participants highest degree earned was a doctoral degree. Concerning teaching licensure, 39 (60.90%) participants received their licensure from a traditional Bachelor of Science program. In comparison, eight (12.50%) participants received their alternative licensure from a Master of Science program, and 17 (26.60%) received their licensure from alternative methods. Additional, alternatively certified participants ($n = 25$) attained licensure from a variety of sources include: iTeachLA ($n = 3$), Louisiana State University’s alternative certification program ($n = 1$), McNeese State University’s alternative certification program ($n = 1$), and Louisiana Tech University’s alternative certification program ($n = 1$).
Table 6.1. Quantitative Participants Demographics \((n = 64)\)

<table>
<thead>
<tr>
<th>Variable</th>
<th>(f)</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>31</td>
<td>48.40</td>
</tr>
<tr>
<td>Female</td>
<td>33</td>
<td>51.60</td>
</tr>
<tr>
<td>Highest Degree Earned</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bachelor’s Degree</td>
<td>35</td>
<td>54.70</td>
</tr>
<tr>
<td>Master’s Degree</td>
<td>23</td>
<td>35.90</td>
</tr>
<tr>
<td>Specialist / 6th Year Certificate</td>
<td>4</td>
<td>6.30</td>
</tr>
<tr>
<td>Doctoral Degree</td>
<td>2</td>
<td>3.10</td>
</tr>
<tr>
<td>Teaching Licensure Method</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Traditional – license obtained from a Bachelor’s of Science program</td>
<td>39</td>
<td>60.90</td>
</tr>
<tr>
<td>Alternative – license obtained from a Master’s of Science program</td>
<td>8</td>
<td>12.50</td>
</tr>
<tr>
<td>Alternative – any other means of certification</td>
<td>17</td>
<td>26.60</td>
</tr>
</tbody>
</table>

Participants were then asked if they had participated in PD events focused on teaching students with special needs. Of those respondents, 38 (59.40\%) indicated they had participated in PD events that featured strategies to accommodate students with special needs, and 26 (40.60\%) participants had not. Finally, 56 (87.50\%) participants indicated they had spent time with a person with special needs outside of an academic setting, but eight (12.50\%) had not (see Table 6.2).
Table 6.2. Qualitative Participants PD Participation (n=64)

<table>
<thead>
<tr>
<th>Variable</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participation in PD event focused on students with special needs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>38</td>
<td>59.40</td>
</tr>
<tr>
<td>No</td>
<td>26</td>
<td>40.60</td>
</tr>
<tr>
<td>Spent time with a person with special needs outside of an academic setting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>56</td>
<td>87.50</td>
</tr>
<tr>
<td>No</td>
<td>8</td>
<td>12.50</td>
</tr>
</tbody>
</table>

Demographic data were also collected to determine age and years of teaching experience (see Table 6.3). Participants’ minimum age was 20 years old, while the maximum age was 61. The mean age of participants was 40 years old ($M = 40; SD = 10.80$). Participants were also asked to report the number of years they had taught. As a result, participants reported a minimum number of years teaching as two and a maximum number of years teaching as 33 with a median of 15 years ($M = 15; SD = 9.20$).

Table 6.3. Age and Years teaching of Qualitative Participants (n = 64)

<table>
<thead>
<tr>
<th>Variable</th>
<th>M</th>
<th>SD</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>40</td>
<td>10.80</td>
<td>20</td>
<td>61</td>
</tr>
<tr>
<td>Years Teaching, including year of data collection</td>
<td>15</td>
<td>9.20</td>
<td>2</td>
<td>33</td>
</tr>
</tbody>
</table>

In addition to participants’ professional characteristics, multiple demographic items included skip logic (see Table 6.4). For example, when participants indicated they had spent time with a person with special needs outside of an academic setting, they were prompted to explain the capacity or relationship with the individual(s). Of the respondents to this item, 28 (43.80%) were reported to be friends, either being a family friend or personal friend. Followed by 28
(43.80%) reporting the relationships as a family member, and eight (12.50%) were classified as other, including a co-worker or a child’s friend.

Table 6.4. Qualitative Participants Relationship to an Individual with Special Needs Outside of an Academic Setting (n = 64)

<table>
<thead>
<tr>
<th>Variable</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Friend</td>
<td>28</td>
<td>43.80</td>
</tr>
<tr>
<td>Family member</td>
<td>28</td>
<td>43.80</td>
</tr>
<tr>
<td>Other (i.e. co-worker, child’s friend)</td>
<td>8</td>
<td>12.50</td>
</tr>
</tbody>
</table>

Participants also reported the format they were most likely to participate in a PD event focused on accommodating students with special needs. Of the presented platforms for PD, 44 (45.40%) responded to be most likely to attend the PD at their school districts, 45 (46.40%) at the LATA summer conference, eight through (12.50%) university platforms, and one (1%) participant indicated they were most likely to attend if offered through other platforms. When asked to specify this, the participant listed the specified platform as the National Association of Agricultural Educators (see Table 6.5).

Table 6.5. Platform Participants are Most Likely to Attend PD Centered on Teaching Students with Special Needs (n = 97)

<table>
<thead>
<tr>
<th>Variable</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>School District</td>
<td>44</td>
<td>45.40</td>
</tr>
<tr>
<td>Louisiana Agriscience Teachers Association [LATA]</td>
<td>45</td>
<td>46.40</td>
</tr>
<tr>
<td>University sponsored</td>
<td>7</td>
<td>7.20</td>
</tr>
<tr>
<td>Other (i.e. National Association of Agricultural Educators [NAAE])</td>
<td>1</td>
<td>1.00</td>
</tr>
</tbody>
</table>
Quantitative Strand Analysis

Research objective one sought to determine the education received by SBAE instructors in Louisiana when teaching students with special needs. Therefore, results from this objective were analyzed using frequency counts, means, and percentages.

Research objectives two and three aimed to describe the discrepancy between Louisiana instructors’ self-perceived relevance and ability regarding disability classifications and inclusions strategies for students with special needs in SBAE. Qualitative Mean Weighted Discrepancy Scores (MWDS) were ranked by order of greatest need through highest to lowest score.

Data were analyzed using SPSS Version 26 to determine the descriptive statistics of participants. A Microsoft MWDS (McKim & Saucier, 2011) calculator was used to determine a discrepancy score for each competency in the two constructs (Borich, 1980). Further the Excel-based calculator reduced user error of calculations (McKim & Saucier, 2011). Therefore, it helped create an order of importance when assessing the training needs of specific competencies in each of the two constructs. The MWDS was calculated determining the discrepancy score for each participant’s response, which was calculated by subtracting the indicated degree of importance by the degree of ability (Garton & Chung, 1997). Next, the weighted discrepancy score was calculated by multiplying the individual competency discrepancy score by the mean importance rating of the competency (Garton & Chung, 1997). The MWDS for each competency then calculated by dividing the sum of the weighted discrepancy scores for the competency by the number of participants who responded (Garton & Chung, 1997).
Qualitative Strand

Procedures

In this study, I employed an instrumental case study approach for qualitative strand (Stake, 1995). Stake (1995) provided a description of a case as a “specific, a complex, functioning thing” (p. 4). Participants of the investigation were bounded by time and place, as they were SBAE instructors during the 2020-2021 school year in Louisiana. Based on the bounds of the case, I purposefully sampled six participants who completed the quantitative instrument based on their certification method, i.e., traditionally or alternatively certified (Creswell & Poth, 2018). To collect data, I conducted semi-structured interviews which lasted approximately 30 minutes (Stake, 1995). The interview protocol used for this investigation was developed through careful consideration of alignment to the quantitative instrument in efforts to establish a more in-depth understanding through the perceptions and lived experiences of participants (Jones et al., 2006). Qualitative themes and sub-themes were presented through importance and ability in alignment of the Borich model (1980). I also applied Tracy’s (2010) qualitative quality criteria to uphold the investigation’s overall quality and rigor.

Qualitative Participants

To describe the participants in the qualitative strand, a brief introduction of each participant is presented. In adherence to ethical and IRB stipulations, each participant was assigned a pseudo-name for representation in the investigation (Tracy, 2010). Additionally, all interview participants identified as female and were white. Participants were also selected based on their licensure methods, which resulted in three participants completing licensure requirements through a traditional route and three who received their licensure through
alternative pathways. Next, a brief introduction of each participant is provided to understand their unique insight presented to the investigation (see Table 7.1).

**Table 7.1. Overview of Qualitative Participants Demographics**

<table>
<thead>
<tr>
<th>Pseudonym</th>
<th>Age</th>
<th>Attended PD Focused on Exceptional Students</th>
<th>Completion of Special Populations Course</th>
<th>Gender</th>
<th>Highest Degree Earned</th>
<th>Licensure Certification</th>
<th>Years Teaching</th>
</tr>
</thead>
<tbody>
<tr>
<td>Margret</td>
<td>28</td>
<td>No</td>
<td>Yes</td>
<td>Female</td>
<td>Bachelor</td>
<td>Traditional</td>
<td>7</td>
</tr>
<tr>
<td>Susan</td>
<td>31</td>
<td>No</td>
<td>No</td>
<td>Female</td>
<td>Bachelor</td>
<td>Alternative</td>
<td>4</td>
</tr>
<tr>
<td>Haley</td>
<td>48</td>
<td>No</td>
<td>No</td>
<td>Female</td>
<td>Master</td>
<td>Alternative</td>
<td>19</td>
</tr>
<tr>
<td>Rachel</td>
<td>23</td>
<td>No</td>
<td>Yes</td>
<td>Female</td>
<td>Bachelor</td>
<td>Traditional</td>
<td>3</td>
</tr>
<tr>
<td>Emma</td>
<td>35</td>
<td>Yes</td>
<td>Yes</td>
<td>Female</td>
<td>Master</td>
<td>Traditional</td>
<td>12</td>
</tr>
<tr>
<td>Hannah</td>
<td>36</td>
<td>Yes</td>
<td>Yes</td>
<td>Female</td>
<td>Bachelor</td>
<td>Alternative</td>
<td>15</td>
</tr>
</tbody>
</table>

**Qualitative Strand Analysis**

After data collection, video recordings of interviews were transcribed verbatim. Following video transcriptions, I used first and second round coding cycles advanced by Saldaña (2016) to provide in-depth analysis of the qualitative data. By applying coding cycles, codes were generated through direct words or phrases that represented my interpreted meaning (Saldaña, 2016). Additionally, coding methods served to “summarize, distill, or condense” data to promote ease when describing themes presented by participants within the data (Saldaña, 2016, p. 5). In this investigation, I employed first round coding cycles of (a) in-vivo, (b) descriptive, and (c) structural.

The use of in-vivo coding provided identification of verbatim words or short phrases, as stated by the participant (Saldaña, 2016). Next, descriptive coding, also known as topic coding was used to develop direct words or phrases to summarize the topic (Saldaña, 2016, p. 102). The
use of in-vivo and descriptive coding allowed me to use the direct quotes of participants as codes that provided a summation of a topic. Due to multiple participant transcripts, the final first round coding method employed was structural coding (Saldaña, 2016) as I organized the data based on the study’s research objectives as guiding structures. After concluding the first round coding cycles, 554 unique codes emerged, which were then further analyzed through a second cycle coding approach (Saldaña, 2016).

The second round coding cycle created a more profound sense of the categorical and conceptual presentation of first round codes (Saldaña, 2016). Therefore, second cycle coding resulted in a reduced list of codes connected to emergent themes. The use of axial coding served as second cycle coding, which identified categories and prominence within codes (Saldaña, 2016). After the employment of axial coding methods, four sub-themes emerged, which included (a) employment and methods of accommodations for students with special needs and (b) perceptions regarding teaching with students with special needs, (c) prior training and/or education concerning teaching with students with special needs, and (d) prior professional development centered on teaching students with special needs. Sub-themes were then interpreted through Borich’s (1980) lens, which helped to bring thematic structure to the themes (Borich, 1980; see Figure 3.1)
Figure 3.1. *Qualitative Strand Emergent Themes*

**Qualitative Quality**

Qualitative quality is established through a set of eight criteria that apply to the specific investigation while also upholding qualitative quality standards (Tracy, 2010). First, a worthy topic was established through the relevance, significance, and interest of the number of students with special needs in SBAE programs which continues to increase yearly, compiled with a low number of studies centered on students with exceptionalities in SBAE which resulted in a significant contribution to the existing research (Tracy, 2010). Further, the investigation achieved rich rigor and meaningful coherence through purposeful data collection and analysis.
procedures to ensure the results aligned with the study’s intended purpose (Tracy, 2010). Further, I attained resonance by ensuring transferability and through the writing methods employed in the investigation to convey meaning to the reader (Tracy, 2010). Further, I presented self-reflexivity, reflections, and the use of thick descriptions to meet the criteria of sincerity and credibility (Tracy, 2010). Also, I strictly adhered to ethical practices through compliance with the IRB for human rights and attention to cultural ethics for the target population’s state. The application of the eight criteria demonstrated efforts to maintain the qualitative integrity of the study.
CHAPTER IV. FINDINGS

Purpose of the Study

The purpose of this mixed methods study was to describe Louisiana SBAE teachers (a) previous education regarding teaching students with special needs and (b) desired professional development opportunities regarding accommodating students with exceptionalities. A convergent parallel mixed methods design was utilized by collecting both quantitative and qualitative data, where data was independently collected and analyzed before being merged. In this study, quantitative data collected was aligned through the Borich (1980) model to describe participants’ professional development needs when teaching exceptional students. The quantitative data also described participants’ prior education centered on teaching students with special needs. The qualitative interviews explored participants’ prior experiences and professional development needs when teaching students with special needs. The reason for collecting two forms of data was to converge the data and establish a more in-depth description than would be achieved through a singular data form.

Research Objectives

1. Describe the education received by Louisiana SBAE teachers regarding students with exceptionalities.
2. Describe discrepancy between relevance and ability of Louisiana SBAE teachers regarding accommodating students with a disability.
3. Describe the discrepancy between relevance and ability of Louisiana teachers regarding inclusion strategies for students with special needs in SBAE.
Quantitative Strand Findings

The quantitative portion of the instrument sought to determine the educational background and PD needs of agriculture teachers in Louisiana regarding accommodating students with special needs. In addition to demographic information, the quantitative strand utilized the Borich (1980) needs assessment model to analyze the two constructs of special education categories and special education inclusion strategies. Mean Weighted Discrepancy Scores (MWDS) were then used to determine the PD needs of SBAE teachers in Louisiana for items in each construct to determine the discrepancy between participants perceived relevance, importance, and their perceived ability.

Research Objective One

Research objective one sought to describe the education received by Louisiana SBAE instructors regarding teaching students with exceptionalities. Education was defined as information gained through a formal setting of a college course centered on students with special needs or members of the exceptional population. To answer the first research objective, participants were asked to indicate if they had completed a college course which included content related to students with special needs. In all, 44 (68.80%) participants indicated they had, while 20 (31.30%) participants indicated they had not (see Table 8.1).

<table>
<thead>
<tr>
<th>Variable</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>44</td>
<td>68.80</td>
</tr>
<tr>
<td>No</td>
<td>20</td>
<td>31.30</td>
</tr>
</tbody>
</table>

Table 8.1. Research Objective One Quantitative Findings (n = 64)
Of the 44 (68.80%) participants who had completed a college course that included methods of teaching students with special needs, 40 (90.90%) reported the course was a requirement of their degree, and four (9.10%) reported they took the course as an elective (see Table 8.2). Participants were also asked to report the number of course hours completed related to teaching students with special needs. Of the 38 participants who reported the number of course hours completed, 19 (50%) participants reported taking three credit hours related to special education coursework. An outlier was present from one participant who completed 36 course hours as a component of completing a special education certification.

<table>
<thead>
<tr>
<th>Variable</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Required</td>
<td>40</td>
<td>90.90</td>
</tr>
<tr>
<td>Elective</td>
<td>4</td>
<td>9.10</td>
</tr>
</tbody>
</table>

**Research Objective Two**

Research objective two employed the Borich needs assessment model to identify the discrepancy between relevance and ability regarding specific disability categories. The Borich needs assessment model allowed for the identification of participants self-perceived level of importance of 11 disability types identified by IDEA (2004) as well as their associated educational impacts. These included (a) ADHD, (b) autism spectrum disorder, (c) blindness or visual impairment, (d) deaf or hearing impairment, (e) emotional or behavioral disorder, (f) intellectual disability, (g) orthopedic impairment, (h) other health impairments (not including ADHD), (i) specific learning disabilities, (j) speech or language disabilities, and (k) traumatic
brain injury. Due to its prevalence, ADHD was removed from Other Health Impairments and given a separate category within the instrument.

Participants were asked to describe the relevance of each of the 11 disability categories on a scale of one to four with one being *not relevant* and four being *very relevant*. Of the 11 disabilities types, *autism* ($M = 3.62; SD = 0.54$), *emotional or behavioral disorder* ($M = 3.58; SD = 0.61$), and *ADHD* ($M = 3.41; SD = 0.71$) were perceived to be of the greatest relevance to participants. The three disability types perceived to be of lowest relevance by participants were *orthopedic impairments* ($M = 3.06; SD = 0.93$), *other health impairments (not including ADHD)* ($M = 3.14; SD = 0.90$), and *traumatic brain injury* ($M = 3.15; SD = 1.00$). The mean level of importance for the 11 presented disability competencies was $3.34 (SD = 0.18)$ and ranged from 3.06 to 3.62 (see Table 9.1).

Participants were then asked to describe their perceived ability to work with each of the disability classifications on a scale of one to four with one being *not competent* and four being *extremely competent*. Of the perceived ability to work with difference disability types, participants felt most competent when teaching students with *ADHD* ($M = 3.18; SD = 0.62$), *intellectual disability* ($M = 2.73; SD = 0.78$), and *autism* ($M = 2.71; SD = 0.70$). Participants reported the lowest self-perceived competence related to the disability categories of *traumatic brain injury* ($M = 1.91; SD = 0.91$), *blindness or visual impairment* ($M = 1.95; SD = 0.93$), and *deaf or hearing impairment* ($M = 2.03; SD = 0.89$). The mean level of ability of the 11 presented disability competencies was $2.48 (SD = 0.38)$, and ranged from 1.91 to 3.18 (see Table 9.1).

In analyzing the discrepancy between relevance and ability, MWDS were determined for each disability type. The three disability types of highest MWDS reported were *blindness or*
visual impairment (MWDS = 4.59), deaf or hearing impairment (MWDS = 4.17), and traumatic brain injury (MWDS = 3.91) (see Table 9.1).

Table 9.1. Participants PD Needs Ranked Based on Disability Type

<table>
<thead>
<tr>
<th>Rank</th>
<th>Competency</th>
<th>MWDS</th>
<th>Importance</th>
<th>Ability</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>1</td>
<td>Blindness or Visual Impairment</td>
<td>4.59</td>
<td>3.33</td>
<td>1.00</td>
</tr>
<tr>
<td>2</td>
<td>Deaf of Hearing Impairment</td>
<td>4.17</td>
<td>3.29</td>
<td>1.00</td>
</tr>
<tr>
<td>3</td>
<td>Traumatic Brain Injury</td>
<td>3.91</td>
<td>3.15</td>
<td>1.00</td>
</tr>
<tr>
<td>4</td>
<td>Autism</td>
<td>3.44</td>
<td>3.62</td>
<td>0.54</td>
</tr>
<tr>
<td>5</td>
<td>Emotional or Behavioral Disorder</td>
<td>3.31</td>
<td>3.58</td>
<td>0.61</td>
</tr>
<tr>
<td>6</td>
<td>Speech or Language Disability</td>
<td>3.09</td>
<td>3.34</td>
<td>0.78</td>
</tr>
<tr>
<td>7</td>
<td>Specific Learning Disabilities</td>
<td>3.08</td>
<td>3.48</td>
<td>0.70</td>
</tr>
<tr>
<td>8</td>
<td>Intellectual Disability</td>
<td>2.08</td>
<td>3.35</td>
<td>0.72</td>
</tr>
<tr>
<td>9</td>
<td>Other Health Impairments (not including ADHD)</td>
<td>1.83</td>
<td>3.14</td>
<td>0.90</td>
</tr>
<tr>
<td>10</td>
<td>Orthopedic Impairment</td>
<td>1.63</td>
<td>3.06</td>
<td>0.93</td>
</tr>
<tr>
<td>11</td>
<td>Attention Deficit Hyperactivity Disorder (ADHD)</td>
<td>0.78</td>
<td>3.41</td>
<td>0.71</td>
</tr>
</tbody>
</table>

Mean rating for scales (Importance and Ability)  
3.34 0.18 2.48 0.38

Overall MWDS 2.84

Note 1. Importance Scale: 1 = Not Important, 2 = Slightly Important, 3 = Moderately Important, 4 = Extremely Important; Ability Scale: 1 = No Ability, 2 = Slight Ability, 3 = Moderate Ability, 4 = Extremely Able

Research Objective Three

The third research objective sought to describe the discrepancy between participants’ perceived degree of relevance and importance of the 26 inclusion strategies as identified by Stair

89
Of the 26 competencies, three were reported to have the highest degree of perceived relevance which included utilizing methods to foster a sense of acceptance and inclusion for a student with a disability while in the classroom \( (M = 3.70; SD = 0.55) \), implementing procedures outlined in a student’s IEP \( (M = 3.67; SD = 0.57) \), and providing an inclusive classroom atmosphere for students with special needs \( (M = 3.65; SD = 0.56) \). The three skill competencies with the lowest perceived relevance by participants were attending PD events focused on teaching students with disabilities \( (M = 3.26; SD = 0.75) \), receiving adequate education and training for teaching students with special needs through PD opportunities \( (M = 3.42; SD = 0.69) \), and successfully evaluating the academic performance of students who have special needs \( (M = 3.43; SD = 0.69) \). The level of perceived importance that participants reported for competency skills related to inclusion practices ranged from 3.70 to 3.26, and had an average, or mean, of 3.56 \( (SD = 0.62) \).

Regarding ability, participants indicated highest perceived ability in modifying assignments or activities according to a student’s IEP \( (M = 3.14; SD = 0.70) \), teaching students who possess any type of disability \( (M = 3.14; SD = 0.70) \), and providing an inclusive classroom atmosphere for students with special needs \( (M = 3.12; SD = 0.60) \). Participants identified the lowest perceived ability in three competencies which included providing inclusive travel opportunities for students with disabilities in the FFA chapter \( (M = 2.58; SD = 0.85) \), providing accommodations for students when competing in FFA activities \( (M = 2.59; SD = 0.90) \), and understanding legal regulations of teaching students who possess special needs, not only in the classroom but also when including these students in FFA and SAE opportunities \( (M = 2.64; SD = 0.80) \). The self-perceived ability of participants ranged from 3.14 to 3.58. The mean level of perceived ability of participants was 2.86 \( (SD = 0.74) \).
In terms of discrepancy between importance and ability, strategies identified as the highest need were understanding legal regulations of teaching students who possess special needs, not only in the classroom but also when including these students in FFA and SAE opportunities (MWDS = 3.54), receiving adequate education and training for teaching students with special needs through PD (MWDS = 3.51), and providing accommodations for students when competing in FFA activities (MWDS = 3.31).
<table>
<thead>
<tr>
<th>Rank</th>
<th>Competency</th>
<th>MWDS</th>
<th>Importance $M$</th>
<th>SD</th>
<th>Ability $M$</th>
<th>SD</th>
<th>$f^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Understanding legal regulations of teaching students who possess special needs, not only in the classroom but also when including these students in FFA and SAE opportunities.</td>
<td>3.54</td>
<td>3.62</td>
<td>0.70</td>
<td>2.64</td>
<td>0.80</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Receiving adequate education and training for teaching students with special needs through professional development.</td>
<td>3.51</td>
<td>3.42</td>
<td>0.69</td>
<td>2.39</td>
<td>0.76</td>
<td>72</td>
</tr>
<tr>
<td>3</td>
<td>Providing accommodations for students when competing in FFA activities.</td>
<td>3.31</td>
<td>3.53</td>
<td>0.55</td>
<td>2.59</td>
<td>0.90</td>
<td>64</td>
</tr>
<tr>
<td>4</td>
<td>Attending professional development events focused on teaching students with disabilities.</td>
<td>3.22</td>
<td>3.26</td>
<td>0.75</td>
<td>2.28</td>
<td>0.88</td>
<td>72</td>
</tr>
<tr>
<td>5</td>
<td>Understanding special education law.</td>
<td>3.22</td>
<td>3.62</td>
<td>0.57</td>
<td>2.74</td>
<td>0.69</td>
<td>72</td>
</tr>
<tr>
<td>6</td>
<td>Following the requirements found in special education law.</td>
<td>3.16</td>
<td>3.61</td>
<td>0.62</td>
<td>2.74</td>
<td>0.82</td>
<td>72</td>
</tr>
<tr>
<td>7</td>
<td>Providing inclusive travel opportunities for students with disabilities in the FFA chapter.</td>
<td>3.09</td>
<td>3.47</td>
<td>0.65</td>
<td>2.58</td>
<td>0.85</td>
<td>72</td>
</tr>
<tr>
<td>8</td>
<td>Providing accommodations for students when competing in SAE activities.</td>
<td>3.03</td>
<td>3.53</td>
<td>0.67</td>
<td>2.67</td>
<td>0.86</td>
<td>64</td>
</tr>
<tr>
<td>9</td>
<td>Identifying approved practices when teaching students with special needs.</td>
<td>2.68</td>
<td>3.50</td>
<td>0.62</td>
<td>2.73</td>
<td>0.74</td>
<td>64</td>
</tr>
<tr>
<td>10</td>
<td>Seeking out additional resources to better prepare oneself for teaching students with disabilities.</td>
<td>2.68</td>
<td>3.44</td>
<td>0.63</td>
<td>2.67</td>
<td>0.79</td>
<td>72</td>
</tr>
<tr>
<td>11</td>
<td>Creating accommodations for students with physical disabilities.</td>
<td>2.65</td>
<td>3.61</td>
<td>0.61</td>
<td>2.88</td>
<td>0.72</td>
<td>64</td>
</tr>
<tr>
<td>12</td>
<td>Utilizing methods of accommodating students with special needs in extended classroom environments.</td>
<td>2.61</td>
<td>3.62</td>
<td>0.60</td>
<td>2.91</td>
<td>0.79</td>
<td>64</td>
</tr>
<tr>
<td>Rank</td>
<td>Competency</td>
<td>MWDS</td>
<td>Importance</td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>------</td>
<td>---------------------------------------------------------------------------</td>
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<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
</tr>
<tr>
<td>13</td>
<td>How to best communicate with students with special needs when building a mentorship.</td>
<td>2.59</td>
<td>3.61</td>
<td>0.63</td>
<td>2.89</td>
<td>0.73</td>
<td>64</td>
</tr>
<tr>
<td>14</td>
<td>Creating a least restrictive classroom environment for all students.</td>
<td>2.54</td>
<td>3.61</td>
<td>0.70</td>
<td>2.91</td>
<td>0.58</td>
<td>64</td>
</tr>
<tr>
<td>15</td>
<td>Involving students with special needs in the FFA chapter.</td>
<td>2.43</td>
<td>3.64</td>
<td>0.56</td>
<td>2.97</td>
<td>0.80</td>
<td>72</td>
</tr>
<tr>
<td>16</td>
<td>Providing physical accommodations for students with special needs.</td>
<td>2.38</td>
<td>3.57</td>
<td>0.60</td>
<td>2.90</td>
<td>0.70</td>
<td>72</td>
</tr>
<tr>
<td>17</td>
<td>Implementing procedures outlined in a student’s IEP.</td>
<td>2.35</td>
<td>3.67</td>
<td>0.57</td>
<td>3.03</td>
<td>0.80</td>
<td>64</td>
</tr>
<tr>
<td>18</td>
<td>Utilizing methods of accommodating students with special needs while in the classroom.</td>
<td>2.03</td>
<td>3.61</td>
<td>0.55</td>
<td>3.05</td>
<td>0.65</td>
<td>64</td>
</tr>
<tr>
<td>19</td>
<td>Providing appropriate learning opportunities for all students.</td>
<td>1.96</td>
<td>3.63</td>
<td>0.59</td>
<td>3.08</td>
<td>0.69</td>
<td>72</td>
</tr>
<tr>
<td>20</td>
<td>Providing an inclusive classroom atmosphere for students with special needs.</td>
<td>1.93</td>
<td>3.65</td>
<td>0.56</td>
<td>3.12</td>
<td>0.60</td>
<td>72</td>
</tr>
<tr>
<td>21</td>
<td>Modifying assignments or activities according to a student’s IEP.</td>
<td>1.71</td>
<td>3.61</td>
<td>0.62</td>
<td>3.14</td>
<td>0.70</td>
<td>72</td>
</tr>
<tr>
<td>22</td>
<td>Managing behavior of students with special needs.</td>
<td>1.62</td>
<td>3.53</td>
<td>0.63</td>
<td>3.07</td>
<td>0.68</td>
<td>72</td>
</tr>
<tr>
<td>23</td>
<td>Teaching students who possess any type of disability.</td>
<td>1.59</td>
<td>3.58</td>
<td>0.62</td>
<td>3.14</td>
<td>0.70</td>
<td>72</td>
</tr>
<tr>
<td>24</td>
<td>Effectively participating in IEP development procedures.</td>
<td>1.40</td>
<td>3.47</td>
<td>0.71</td>
<td>3.07</td>
<td>0.76</td>
<td>72</td>
</tr>
<tr>
<td>25</td>
<td>Successfully evaluating the academic performance of students who have special needs.</td>
<td>1.29</td>
<td>3.43</td>
<td>0.69</td>
<td>3.06</td>
<td>0.69</td>
<td>72</td>
</tr>
</tbody>
</table>
Utilizing methods to foster a sense of acceptance and inclusion for a student with a disability while in the classroom.

Mean rating for scales (Importance and Ability)

Overall MWDS

Note 1. Importance Scale: 1 = Not Important, 2 = Slightly Important, 3 = Moderately Important, 4 = Extremely Important; Ability Scale: 1 = No Ability, 2 = Slight Ability, 3 = Moderate Ability, 4 = Extremely Able

Note 2. Participant frequency varied due to participant’s incompletion of the second chart of presented competencies

Qualitative Strand Findings

The qualitative data were also interpreted through the Borich (1980) needs assessment model, which structured the emergence of the study’s findings. The qualitative strand addresses research objectives one, two, and three. In this section, further explanations and descriptions are provided related to each of themes.

Relevance

Participants identified their perceived relevance when teaching students with exceptionalities through two sub-themes (a) perceptions, and (b) accommodation supports.

Relevance Sub-Theme 1: Employment and Approaches to Accommodations

Overall, participants described positive perceptions and benefits for including students with exceptionalities in SBAE classrooms. Hannah discussed the desire to ensure inclusivity, stating: “I never want them to feel different than anyone else… to feel like they’re not achieving at the same levels as anyone else… If have to do those things [implement accommodations or modifications], I do that behind the scene.” Margret shared how the nature of SBAE programs
allow them to be incredibly beneficial for student with special needs, stating: “Our [agricultural education] classrooms naturally lend themselves to be the least restrictive.” As the SBAE classrooms tend to be more inclusive, participants also shared accommodation approaches they have implemented for all students in an effort to build inclusivity. Susan discussed the use of specific strategies having “gone through and reformatted a lot of notes with more pictures… more visual…. even though it’s a black and white.” Emma she shared how she completed check-ins with students with special needs as they complete an assignment to provide additional accommodations or modifications if needed. Participants also shared additional practices when building inclusivity, as Rachel explained her method when implementing a student’s accommodations: “because I was giving those accommodations to him, I would usually give them to the rest of the students in this class just to make my life a little bit easier, and it didn’t single him out either.” Margret also shared that she uses accommodations provided to the entire class, to not single out a student, she explained:

a lot of times I just make the class so that the accommodations don’t seem so obvious, that almost every kid actually gets the extra time, or, you know, getting the same kind of attention… I think that helps with the inclusion process.

An additional perception described by participants included the willingness to modify their classroom and laboratory space to develop and maintain a space that was easy to navigate for all students, especially students with orthopedic impairments. Haley shared her experience of teaching a student in a wheelchair and how, as a result of that experience, maintaining an inclusive environment would remain a priority for her in the future. When setting up her classroom, she shared: “I always try to keep in mind that they may need to get around…that’s always been a consideration.” Further, when providing the classroom accommodations for her
student in a wheelchair, she expressed the difficulties she experienced in getting a handicap desk: “I had to fight to get it… since that student left, I’ve refused to take it out.” Meanwhile, Emma shared her ability to create an inclusive space could be mostly contributed to her school being a new building. She explained:

I teach in a newer school, so, you know, I have wider door frames and that type of stuff, they [those who designed the school] were really big on safety… there’s not like steps that a student in a wheelchair couldn’t get up or anything.

For many of the teachers in this study, inclusion was not a practice that came naturally, or from previous training. Instead, it had to be consciously incorporated into their program. Rachel shared a goal she had set for herself to become more aware and intentional when providing accommodations and modifications for students. As a new teacher, she identified in her first year she had not spent much time working to implement student’s accommodations or modifications, she explained: “I have made it a goal of mine… to try to become more aware and modify my lessons to include students with special needs, but like, my whole first year teaching, I didn’t do that.” Similar sentiments were expressed by Emma who shared her difficulties in providing accommodations or modifications for students when partnered with the added difficulty of large class sizes. She shared her experience of teaching a class with 33 students:

they [the student with exceptionalities] might needs lots of extra help or they need something modified and it’s so hard to give them the time and attention they might need… but I also have so many and I can’t give you [the student with exceptionalities] the individual help that you need.

When accommodating students, participants described the unique environments of laboratories such as agricultural mechanics shops and greenhouse facilities as an added challenge to successful inclusion. As Hannah explained: “those accommodations don’t always fit our setting… you have to be flexible.” Haley echoed the sentiment, explaining her experiences when teaching students in the greenhouse: “Often times we’re [the SBAE instructors] working off the
cuff, I really wish it wouldn’t be that way.” Emma also identified this as a difficulty, sharing that at her school, she identified the shop area as “hard to maneuver” in areas such as welding booths where a student would work with hot metal. Emma also identified her concerns with the safety of the agricultural mechanics laboratory setting for some students with special needs, but additionally expressed her concerns those students might not be given many opportunities to continue coursework after an initial introduction course, as she shared: “even though you [a student with exceptionalities] might be able to take an Ag 1 class, after that, there’s pretty much not good options for you.” Rachel had a similar experience, sharing she taught a student with orthopedic impairments who took her classes but would never be able to take a carpentry or electricity course because they would be unable to safely use the equipment. Hannah agreed that shop safety was a concern, and she shared her experiences with modifying the agricultural mechanics laboratory environment for a student with a mobility impairment. She described a student who was experiencing difficulties navigating the shop and being able to lift or transport materials to his workstation. Because of this, she gathered materials for him prior to class and once his materials were in front of him, he was able to successfully participate in class and perform the task. Hannah described the experience: “he struggled a lot in the shop with moving materials and wood and once we got everything cut and laid out and put in front of him, he was fine.”

Participants also shared concerns related to the shop setting where students are often tasked with completing projects that require multiple steps and complicated instruction, Margret shared: “particularly in the shop… they [students with exceptionalities] can only take one-step directions and the shop is one of those places that you [the instructor] give multi step directions… I had to find some alternatives to that.” Susan shared methods of accommodations
where she used proximity in the shop to keep students with exceptionalities closer to her, allowing her to be able to implement accommodations and make adjustments as needed while being able to monitor the safety of the student. She also described a partnering system she uses in the shop to support the inclusion of students with special needs, while also implementing the student’s accommodations:

I have another student help them [the student with exceptionalities] versus me… I try to have the young boys help those kids [students with exceptionalities] and they’re [both general education students and students with special needs] generally very receptive to that help, the other kids [general education students] are more willing to help really more than I ever expected.

Participants shared their experiences when seeking and receiving external supports to successfully implement a student’s accommodations or modifications. When implementing student accommodations, participants expressed the need for and benefit of paraprofessionals to assist students with classroom assignments. As Haley expressed: “a shop setting… it’s something… without a [paraprofessional] that hour, I would definitely be in a bind.” However, although all participants identified the need for a paraprofessional, not all participants identified receiving one. Margret described this difficulty: “in the shop especially, those students should have a [paraprofessional], and they don’t.” She continued to explain that she was unable to get assistance for a student in her shop class to help ensure the students accommodations where met, she further explained:

the young man probably wasn’t functioning at more than about a five year old level… I expressed concerns that I needed a [paraprofessional]… I needed somebody else in there… they basically told me it was just because they needed a class for him for social interaction.

As participants focused primarily on the need to receive support for students through a paraprofessional, complications emerged. Emma described her experiences with paraprofessionals as often being a distraction to the students rather than a benefit, for example
she shared: “he is well known for coming up in the middle of my lessons to show me something on his phone that relates and I’m like, the lesson is not for you [the paraprofessional].”

In addition to a need for student paraprofessionals, participants indicated they often utilized communication and partnerships with other teachers to determine which methods have worked well for other teachers. Rachel, an early career teacher, created a checklist for each student’s accommodations, a technique which she learned from a veteran teacher. Rachel described:

I make a binder and then make myself a checklist and I have a list of all the different accommodations that they [a student with exceptionalities] could possibly have and then I have the students name… I got that from a veteran teacher.

Participants also shared the support of the special education department and teachers at their schools when accommodating students with special needs, especially in scheduling students into their classes and when implementing students’ accommodations. All participants described having a positive relationship with the special education department at their schools. As Hannah explained:

We have a very good relationship with our special education department, and they dictate where those students with special needs go… we talked the first week of school and we decide if we’re going to put them in our horticulture class or vet science class.

Haley shared her work with the special education department and school counselors to decide which class placement was best for specific students. Haley also explained she has a student with special needs who would be taking her course the following year, and she was currently working with her special education department to review information about the student and learn methods to better serve the student once she began the course. Haley shared a recent conversation with a special education teacher where she had followed a student’s IEP procedures, but the student was still unable to understand the assignment. As Haley explained:
I was looking for one young lady’s teacher, I was like OK this didn’t work, I need help… we just go to each other whenever we need to… what else can I do and how they [the special education teachers] can help, they’re really amazing.

Susan also described a good working relationship with the special education teachers in her school describing how she often communicates with them to get their opinion on a student’s ability to operate machinery in the shop before presenting the lesson to the student so she can be better prepared to provide accommodations. As she explained: “they’re [the special education teachers] very good at helping me decide on whether those kids [students with exceptionalities] are OK to do that or if it might be a safety issue.” Haley agreed relationships were key and shared how much she learned from a student’s paraprofessional and the special education department at her school during her time teaching a student in a wheelchair: “I learned a lot from his [paraprofessional], and the SPED teacher was excellent at keeping me abreast.”

In addition to supports received from the special education department, participants also shared the support or lack thereof they received from the counselors at their school. Participants had varied experiences, and some participants indicated their classroom was often used as a placement for students to receive social interaction without the support of paraprofessionals to assist in classroom learning activities. For example, Hannah shared:

I have multiple students this semester with multiple accommodations and are in complete self-contained classrooms that come to my classroom, and they [the students with exceptionalities] come independently, so absolutely no help once they get into my classroom… it is not a good situation right now.

Hannah continued to explain how students are often placed in her program for social interaction and are not expected to complete assignments or certification training, which results in placing students into student worker roles to provide accountability for their time in her classroom.

Through the range of experiences when working with school faculty, participants emphasized the
importance of positive support, not only when implementing student’s accommodations or modifications, but for overall support when teaching diverse students.

**Relevance Sub-Theme 2: Perceptions**

The second sub-theme was the participant’s personal perceptions in regard to teaching students with special needs. Participants described how personal perceptions influenced the inclusion of students with special needs in the FFA organization, and how personal relationships with family or friends with special needs influenced their overall perceptions.

Agricultural education consists of more than just classroom interactions. Participants also discussed the importance of student involvement in FFA, the leadership component of agricultural education’s three-circle model. Although all participants shared a positive perception of involving students with special needs in the program, only three of the six participants had personal experience involving these learners in FFA competitions or trips. Margret shared the unique situation of having a student with autism compete in the FFA Land Judging Contest. Even though the student did very well in the competition, it was often difficult to navigate portions of the contest as the student became overwhelmed when surrounded by a large group of people. Through her reflection of the experience she shared: “You [the instructor] just have to kind of need to know what you’re working with, so I think that there’s times that I just didn’t think enough about how to provide those needs.” Emma also shared her experiences teaching one student who was in a wheelchair and another student with Down syndrome who both showed livestock. Emma described the experience as being a positive one: “they loved it… they were a part of it.” When Emma was asked if she experienced any difficulties in accommodating these students at livestock shows, she indicated that she did not have any difficulties but the student in the wheelchair did have additional assistance from his sister to navigate the show ring.
She explained: “his sister showed, so she was out there kind of helping him push his chair along and they had a special set up for him.” Susan shared her experiences with training a student with special needs for a contest, however, the student ultimately did not attend. Susan explained: “I was going to put him on a team by himself… my theory is if you [the student with exceptionalities] come to practice and [are] putting forth the effort … I’m not going to not let them not come.” She further discussed that she felt students with special needs get more nervous for FFA contests:

I think they [the student with exceptionalities] get more nervous because they know it’s a competition… they know it’s competing against other people, so I’ve had them say ‘oh no I don’t want to do that because I’m not smart.

Of the participants, Margaret was the only one to share an experience traveling with a student with special needs on an overnight trip as she took a student with cerebral palsy to the National FFA Convention to receive her American Degree. Before leaving for their trip, Margret submitted accommodations to National FFA to ensure the student was able to sit on the floor with the other degree recipients. However, despite submitting the accommodations in advance, they were not put in place, Margaret expressed her frustration that when they arrived, “she was not able to sit on the floor with the rest of the degree recipients, and so that was a major issue.” Margret continued: “that was my first time I had to make a request for accommodations, so it just makes me that much more aware that I need to make contact more than once…and also continue to follow up.” Through this experience, she also shared how she became more aware of accommodations she may need to provide when hosting her own events as an SBAE teacher and how important it was to keep accommodations in mind throughout all events.

In addition to FFA experiences, participants also identified how personal relationships with family and friends further supported the importance of accommodating students with
special needs. Margret shared her experience of realizing her father had dyslexia after her time teaching students in her classroom who also had that disability. She reflected on her experience as a child when she would work with her father weighing show pigs, she explained: “he wasn’t the one reading the scale… he was the one writing it down.” It was not until she became a teacher that she realized her father was uncomfortable reading the weight aloud due to his dyslexia, she further reflected: “I thought I was just learning how to do the things he already knew, but it was actually because my dad has dyslexia and I did not know.”

Hannah shared an attachment to students with Down syndrome due to her personal relationship with her best friend’s daughter who has Down syndrome, as well as interactions with four teachers’ from her previous school who had children with Down syndrome. Hannah shared her confidence when teaching students with Down syndrome was due to her prior experiences, as compared to teaching students with autism, she explained:

my personal experience with that [students with Down syndrome] is a little different, I personally feel that the campus that I’m at right now, students with autism is the one that gets me, ‘cause I don’t necessarily understand all the things behind it.

Haley, shared how her time spent a cousin who was deaf influenced her teaching career: “I have a first cousin who is deaf, and I made it a point as a child to learn Sign Language because it just breaks my heart that he would sit by himself at our family gatherings.” She continued: “I need to go back and do a refresher course on my Sign Language… I worry that I’ll encounter a student who needs it… I’m losing the skill because I’m not using it.”

Ability

Participants expressed their perceived ability through two sub-themes: (a) participant’s prior education, and (b) participants prior PD centered on teaching exceptional students.
Ability Sub-Theme 1: Education

Three participants of the investigation completed their certification through traditional methods at the university level, of these participants, each completed one, three-credit hour course dedicated to teaching students with special needs. Emma and Margret both discussed that while they did take the course, they did not take away much from the experience. For example, Margret shared: “Really, I didn’t receive much [education related to teaching exceptional students] other than one hour of undergrad [college courses].” This was echoed by Emma who explained: “All I can really remember is when I was doing my teacher preparation, we had to take one class on special populations.” Rachel, however, took more meaning from her experiences as a result of tutoring students with special needs as part of completing the required course. She described how the tutoring experience allowed her to develop a deeper understanding of differences among students since she did not have any prior experience with students with special needs before the course. Rachel explained: “I never really struggled, like, I didn’t have a learning disability or anything else, so it was eye opening in the sense it made me realize, oh, everyone’s not like me.”

Ability Sub-Theme #2: Professional Development

The last sub-theme of the investigation described participant’s perceived abilities supported through their experiences with prior PD. As participants shared their PD experiences, they also indicated additional areas needed for further to improve their ability to work with students with special needs.

None of the participants attended prior PD focused on special education. However, participants did indicate participation in annual training provided through their local school district. As participants shared their experiences with school district PD events, many described
the events as being targeted toward general education teachers. For example, Rachel explained:

“[the PD] my local school district puts on… they’re never really gauged for ag teachers, it’s more like traditional math and English.” Hannah shared her frustration with her school district’s PD trainings since it is: “typically a PowerPoint that somebody gets up there and reads, and it’s the same PowerPoint that they’ve been using since that person took the position, they just updated the numbers.” In addition to perceiving the training to be targeted primarily to general education teachers, participants also described their experiences in school district trainings as more of a blanket session to ensure teachers were upholding the legal requirements when teaching with students with special needs without providing in-depth information. Additionally, participants did not feel as though the information was presented effectively. Emma explained:

they [school district PD presenters] talk about what you [the instructor] have to do and guidelines you have to follow and this law and that law, and it’s all a bunch of information coming at you really fast, so none of it really sticks.

Emma stated they just kept reminding her to “don’t forget to fill out this paperwork.”

Despite dissatisfaction of events they had participated in previously, all participants indicated they would attend PD events centered on students with special needs if available. When asked if she would attend training related to the inclusion of special education students, Susan said: “definitely, especially with the number [of students with exceptionalities] that I see in this area, definitely yeah, I probably honestly need it.” Participants also discussed that they would be more likely to attend the events if offered through the Louisiana Agriscience Teacher Association (LATA) training program. For example, Emma explained: “If it [PD centered on students with special needs] was at the ag teacher conference [LATA], I would go to one.” Continued by Susan who shared: “I find I get more out of the conversation out of our [SBAE teachers] PD from LATA things.” Two participants expressed the desire to receive training through LATA as it was
normally held during the summer months, therefore they would not have to schedule additional
time off. Haley explained: “I just feel if it’s during the year, it’s so much more difficult because
it feels like you’re taking away from the time you would have had with a child [in the
classroom].” Emma agreed with this sentiment: “I don’t know that they [school officials] would
let me take time off of school to go.”

When discussing perceived PD needs, participants expressed the need for events which
presented specific training based on disability types, along with skills they could directly apply
to their classroom and teaching practices. As Emma explained:

I don’t necessarily need theory and all that type stuff, I need, if this is an assignment,
here’s some practical ways you can modify… because that’s where the rubber meets the
road… how is it practical to create something for them [the students with
exceptionalities] without you know, taking over my [the instructors] life, modifying
every assignment.

Margaret discussed the need for events organized by professionals in the field:

an expert on special needs or something… yeah, I think that would be great to talk to
somebody… I’d like to see somebody who specializes in this [SBAE] and also
specializes in special needs.” Margret also shared: “I think there needs to be maybe a
specialized PD, you know… how to categorize them [students with exceptionalities] and
then how to approach them.

Following the need for specific PD session, participants also shared disability types they
felt the least prepared to work with. In particular, three participants identified a desire for
training related to students with autism to better understand difficulties related to this disability
type. Participants shared that many students who possessed autism may not be immediately
identifiable until exposed to certain situations. As Haley reflected: “when I mean broad, I mean I
have one young man I didn’t even realize he had autistic behavior till he blurted something
inappropriate to another student.” Followed by Hannah who shared:

We have several on the autism spectrum that spectrum is so vast, so you [the instructor]
can have a student that has autism that sits in your class, and unless you read the
documentation that goes with that student you would never know… then you have the total opposite end of that spectrum.

Margret shared an overall sense of unease due to her lack of knowledge about autism, specifically related to how to prepare lessons and work with students who have autism through FFA and SAE activities.

Participants also identified challenges when teaching students with emotional disorders or behavioral impairments, blindness or visual impairments, and deafness or hearing impairments. Susan reflected on her fears related to teaching a student with an emotional disorder that restricted his ability to process emotions, and ultimately led to physical altercations. Susan explained:

I can explain things a little more thoroughly… but I can’t deal with it when we have a temper tantrum or a meltdown, that’s a little more difficult to deal with, I wasn’t exactly prepared for that… if he [the student with an emotional or behavioral impairment] wanted to do something like, really bad, there would’ve been nothing I could do… they don’t know how to control it.

Hannah also shared her difficulties related to not feeling prepared enough to know what “triggers” may be associated with each student. Emma also agreed that: “a behavior disorders can be a little bit unnerving.” In contrast, Rachael revealed she did not feel the need for PD focused on disorders such as ADHD, but instead, had difficulties with: “students who are in a wheelchair or have bad vision… like a vision impairment or hearing impairment.” Rachel also shared her experience with a student who had a visual impairment, but being unsure how to assist the student, she explained: “I had a student earlier this year that she [the student with a blindness or visual impairment] would have to hold her textbook to her face to be able to see it… I was very confused.”
CHAPTER V. CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATIONS

Purpose of the Study

The purpose of this mixed methods study was to describe Louisiana SBAE teachers (a) previous education regarding teaching students with special needs and (b) desired professional development opportunities regarding accommodating students with exceptionalities. A convergent parallel mixed methods design was utilized by collecting both quantitative and qualitative data, where data was independently collected and analyzed before being merged. In this study, quantitative data collected was aligned through the Borich (1980) model to describe participants’ professional development needs when teaching exceptional students. The quantitative data also described participants’ prior education centered on teaching students with special needs. The qualitative interviews explored participants’ prior experiences and professional development needs when teaching students with special needs. The reason for collecting two forms of data was to converge the data and establish a more in-depth description than would be achieved through a singular data form.

Research Objectives

1. Describe the education received by Louisiana SBAE teachers regarding students with exceptionalities.

2. Describe discrepancy between relevance and ability of Louisiana SBAE teachers regarding accommodating students with a disability.

3. Describe the discrepancy between relevance and ability of Louisiana teachers regarding inclusion strategies for students with special needs in SBAE.
Summary of Findings

Research Objective One

Research objective one sought to describe the education received by Louisiana SBAE teachers centered on teaching students with special needs. Quantitative strand analysis revealed, 44 (68.8%) participants \((n = 64)\) completed a college credited course related to students with exceptionalities, while 20 (31.3%) did not. Of the 44 (68.8%) participants \((n = 64)\) who completed a course centered on students with special needs a 40 (90.9%) indicated the course was a required part of their degree requirements.

Qualitative strand analysis found four of the six participants reported taking a college course focused on students with exceptionalities. Of the four participants which reported taking a course centered on exceptional students, all reported the course was a requirement of their degree program. As Emma explained: “we [agricultural education degree majors] had to take one class on special populations.” While two participants indicated not completing a college course related to students with special needs, one of the two participants, Susan, shared she did recall completing a small portion centered on students with special needs through her alternative certification course. Although, Haley reported she had never completed formal coursework or training centered on students with special needs. Rather, Haley shared she worked with special education teachers at her school to provide her with information she needed to know when teaching students with exceptionalities.

Research Objective Two

Research objective two was achieved through the description of discrepancy between relevance and ability of participant’s self-perceptions when teaching students with disabilities within 11 disability types. Participant’s responses to perceived importance and ability where
conducted through a four-point scale, with responses then used to calculate a MWDS for each competency. The MWDS score identified competencies which required additional PD, with a higher MWDS indicating a higher need. Of the 11 disability types participants indicated the greatest discrepancies between perceived importance and ability for disability types of *blindness or visual impairment* (MWDS = 4.59), *deaf or hearing impairment* (MWDS = 4.17), and *traumatic brain injury* (MWDS = 3.91). Results of research objective two identified PD or educational need of participants in methods when teaching a student with disabilities based on the disability type.

**Research Objective Three**

Research objective three described the discrepancy between participant’s perceived relevance and ability when implementing inclusion strategies in their classrooms and programs. Participants reported their self-perceptions through a four-point online instrument, where participant’s responses were analyzed to determine a MWDS for each strategy. Of the presented strategies, participants identified the greatest discrepancy in the following strategies: *understanding legal regulations of teaching students who possess special needs, not only in the classroom but also when including these students in FFA and SAE opportunities (MWDS = 3.54), receiving adequate education and training for teaching students with special needs through PD opportunities (MWDS = 3.51), and providing accommodations for students when competing in FFA activities (MWDS = 3.31).*

**Conclusions**

The purpose of this mixed methods study was to describe Louisiana SBAE teachers (a) previous education regarding teaching students with special needs and (b) desired professional development opportunities regarding accommodating students with exceptionalities. Overall, as
a result of this investigation, I concluded a gap exists in preservice education among participants, when teaching students with exceptionalities. By analyzing the point of interface of the two research strands, convergence was present throughout the identification of PD needs based on disability categories as well as inclusion strategies. The conclusions of the investigation are expanded below.

**Education**

As result of the point of interaction of both research strands, I was concluded participants were underprepared when teaching students with special needs. Participant’s inadequate preparation is further supported through participant’s low response of prior education centered on teaching students with special needs (see Table 11.1). Through participant’s sensemaking process (Weick, 1995), the limited preservice education represented a lack of opportunities for formative notice and interpretation which results in a lack of action in the field. Further, participants who completed a course centered on students with special needs primarily only reported the completion of one course, as a requirement of their degree. This conclusion is consistent with prior research, which has indicated preservice courses centered on students with special needs are often not extensive enough in helping teachers feel prepared to teach students with special needs in their programs (Aschenbrener et al., 2010; Faulkner & Baggett, 2010; Kessell, 2009; Ruhland & Bremer, 2002; Stair et al., 2019). Therefore, it was further concluded that even if participants received preservice education centered on teaching exceptional students, the limited extent of the course failed to provide adequate time for interpretation and the develop of positive perceptions when accommodating students with special needs. In addition, due to the time required to influence teachers' perceptions, the preservice education stage serves as a vital timeframe where inclusive strategies can be present to allow for appropriate action once entering
the field (Savolainen et al., 2020). Preservice courses centered on teaching students with special needs allows for the introduction of strategies when teaching students with special needs and provides an increased self-perceived ability when accommodating students with special needs (McCray & McHatton, 2011; Shippen et al., 2005). As a result of the identified inadequate quality of preservice education, participants also identified discrepancies in self-perceived ability when implementing inclusion strategies.
Table 11.1. Convergence of Education

<table>
<thead>
<tr>
<th>Variable</th>
<th>Quantitative Strand Results (&lt;i&gt;n = 64&lt;/i&gt;)</th>
<th>Qualitative: Transcript Quote’s</th>
<th>Convergence or Divergence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Completion of a college course related to the special needs population</td>
<td></td>
<td>“we had to take one class on special populations”</td>
<td>Convergence</td>
</tr>
<tr>
<td>Yes</td>
<td>68.80%</td>
<td>“I mean maybe one or two [college courses centered special needs population]”</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Emma)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>“I did have to take one required course”</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Rachel)</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>31.30%</td>
<td>“I’m fairly certain I had a little section I went through, but it wasn’t nothing really major”</td>
<td>Convergence</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Susan)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>“Zero, were told there would be accommodations… basically just said the SPED teacher would lead us in the direction we needed to go”</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>(Haley)</td>
<td></td>
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</tbody>
</table>
Professional Development Needs

As a result of limited education and training, I conclude that convergence between quantitative and qualitative research strands in this study identified discrepancies between the relevance of inclusion strategies and participants self-perceived ability to implement those strategies within their programs. This discrepancy further reiterated the overarching PD needs of SBAE instructors in Louisiana when teaching students with special needs which aligns with prior research in Louisiana (Stair et al., 2016). Qualitative exploration found participants believed that most of their professional development experiences related to special education to be inadequate and shared experiences of fast-paced, repetitive, and surface level events. To combat this deficiency, PD should be offered based on specific disability types and inclusion strategies as reported in this investigation.

Specifically, convergence of strand findings concluded the greatest PD need for SBAE teachers in Louisiana centered on the disability category of blindness or visual impairment (see Table 12.1). This conclusion is further established through quantitative findings of a MWDS of 4.59, the highest MWDS score identified within this instrument. Further, convergence within the research strands identified participants shared experiences of uncertainty when understanding accommodations and the assistive technology devices utilized by students with visual impairments. Rachel described this lack of understanding when teaching a student with low-vision: “She would have to hold her textbook like to her face to be able to see it... I was very confused.” The low prevalence of students who are blind or visually impaired may be linked to participants’ discrepancy, as less than 5% of classified students in parishes fall under the disability classification (Louisiana Department of Education, 2019). Prior work conducted by Kessell (2005) found 24.7% of preservice teachers identified a lack of confidence when teaching
students who are blind or visually impaired. In addition, literature has identified teacher difficulties when teaching students who are blind or visually impaired in STEM content courses (Beck-Winchatz & Riccobono, 2008).

Table 12.1. Highest PD Need of SBAE Instructors in Louisiana the Disability Category of Blindness or Visual Impairment

<table>
<thead>
<tr>
<th>Variable</th>
<th>Quantitative: MWDS (n = 79)</th>
<th>Qualitative: Transcript Quotes</th>
<th>Convergence or Divergence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blindness or Visual Impairment</td>
<td>4.59</td>
<td>“She would have to hold her textbook like to her face to be able to see it… I was very confused” (Rachel)</td>
<td>Convergence</td>
</tr>
<tr>
<td></td>
<td></td>
<td>“he’s [the student with exceptionalities] got an implant in his eye that types on the computer screen, so he likes to freak me out with that” (Haley)</td>
<td></td>
</tr>
</tbody>
</table>

Based on the findings in this investigation, the section highest PD need of Louisiana SBAE instructors was related to teaching students classified as deaf or hearing impaired (see Table 12.2). The investigation concluded participants felt underprepared when teaching students who are deaf or hearing impaired and was identified as the second highest ranked MWDS score in the quantitative instrument. Qualitative participants described the depth of need as an overall desire for PD events when teaching this population of students, along with the added difficulty of not being able to communicate with students who are deaf or hearing impaired due to limited sign language skills. This conclusion also aligns with Kessell (2005), where he found 19.8% of preservice teachers identified a lack of confidence when teaching students who are deaf or have a
hearing impairment. As teaching students who are deaf or hearing impaired requires unique training, participants in this investigation have identified teaching students in this population as an area that should be addressed through future PD events (RMTC-D/HH, 2020). As with blindness and low-vision, this category of disability represents a small populations of students in Louisiana and makes up less than 5% of students identified as individuals with a disability (Louisiana Department of Education, 2019).

Table 12.2. PD Need of Louisiana SBAE Instructors when Teaching Students who are Deaf or Hard of Hearing

<table>
<thead>
<tr>
<th>Variable</th>
<th>Quantitative: MWDS ( (n = 79) )</th>
<th>Qualitative: Transcript Quotes</th>
<th>Convergence or Divergence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deaf or Hearing Impairment</td>
<td>4.17</td>
<td>“a hearing impairment, I would like to know ways of how to work with those students” (Rachel)</td>
<td>Convergence</td>
</tr>
<tr>
<td></td>
<td></td>
<td>“I need to go back and do a refresher course on my sign language, like that’s one area I’ve let go” (Haley)</td>
<td></td>
</tr>
</tbody>
</table>

Louisiana SBAE instructors win this study also identified a need for more professional development related to students with Autism Spectrum Disorder (see Table 12.3). This conclusion is supported based on participant’s quantitative scores of a MWDS of 3.44, as well as qualitative participant’s experiences describing limited knowledge about the disability type. Similarly, Brock (2014) discussed the need for teachers to receive additional PD to effectively work with students with Autism Spectrum Disorder.
Table 12.3. PD Need of Louisiana SBAE Instructors when Teaching Students who have Autism

<table>
<thead>
<tr>
<th>Variable</th>
<th>Quantitative: MWDS $(n = 79)$</th>
<th>Qualitative: Transcript Quotes</th>
<th>Convergence or Divergence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Autism</td>
<td>3.44</td>
<td>“Personally, the most difficult is the broad spectrum of autism, I’ve gotten kids [students with exceptionalities] who were very mild and I’ve gotten kids [students with exceptionalities] who are very severe... so modifying your lessons for those students where they continue to have rigor, I find that to be difficult.” (Haley)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>“we have several on the autism spectrum... you can have a student who has autism that sits in your class, and unless you read the documentation that goes with that student, you would never know that student has autism” (Hannah)</td>
<td></td>
</tr>
</tbody>
</table>

Based on the convergent findings of the two strands, it was also concluded that PD needs exist related to the disability category of emotional or behavioral disorders (see Table 12.4). This conclusion aligned with prior investigations in the state conducted by Stair et al. (2016) where SBAE instructors identified PD need focused on behavior management. Through qualitative analysis, participants shared experiences of being unable to work with students with emotional or behavioral disorders, as they felt students who possessed the disability could be “unnerving.” As
participants described apprehension when teaching students who have emotional or behavioral disabilities, PD need is further emphasized through application of sensemaking which may promote more confidence through the development of action when teaching these students.

Further, quantitative strand analysis found the category to be the fifth highest MWDS for perceived PD need. State et al. (2018) further supported this conclusion through a found need for continual evaluation of PD offered to teachers focused on methods of accommodating students with emotional or behavioral disorders.

Table 12.4. PD Need of Louisiana SBAE Instructors when Teaching Students who have Emotional or Behavioral Disorders

<table>
<thead>
<tr>
<th>Variable</th>
<th>Quantitative: MWDS ($n = 79$)</th>
<th>Qualitative: Transcript Quotes</th>
<th>Convergence or Divergence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emotional or Behavioral Disorder</td>
<td>3.31</td>
<td>“I can’t deal with it when we have a temper tantrum or a meltdown” (Susan)</td>
<td>Convergence</td>
</tr>
<tr>
<td></td>
<td></td>
<td>“I’m like behavior disorders can be a little bit unnerving” (Emma)</td>
<td></td>
</tr>
</tbody>
</table>

Participants also identified high degree of self-perceived ability when teaching students with Attention Deficit Hyperactivity Disorder (see Table 12.5). For example, during the qualitative strand one participant directly shared she did not need PD centered on ADHD and that she felt confident teaching this group of students. The lack of need for PD in this area is also emphasize through the quantitative strands MWDS of 0.78, the lowest of the investigation.
Table 12.5. PD Need of Louisiana SBAE Instructors when Teaching Students who have ADHD

<table>
<thead>
<tr>
<th>Variable</th>
<th>Quantitative: MWDS</th>
<th>Qualitative: Transcript Quotes</th>
<th>Convergence or Divergence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attention Deficit Hyperactivity Disorder (ADHD)</td>
<td>0.78</td>
<td>“I would like to go to a professional development that focused specifically not just the students that have ADD or ADHA.”</td>
<td>Convergence</td>
</tr>
<tr>
<td></td>
<td>(n = 79)</td>
<td>(Rachel)</td>
<td></td>
</tr>
</tbody>
</table>

Convergence emerged throughout several inclusion strategies identified through both the qualitative and quantitative research strands. Conclusions of the investigation align with prior work by Hoerst and Whittington (2009) which found 80% of Ohio SBAE instructors indicated a need for PD centered on more teaching techniques when teaching students with special needs. Although, this investigation builds on the prior work in the state by concluding the lack of education and training of SBAE instructors (Stair et al., 2016) it describes PD needs centered on specific inclusion strategies.

The legislative rights for students with special needs have been expanded through decades of advocacy, teacher preparation, and training (Brown v. Board of Education, 1954; EAHCA of 1975; ESEA of 1961; IDEA, 2004; Training of Professional Personnel Act, 1959). After reviewing this investigation’s findings, SBAE instructors in Louisiana need PD on the legal components of teaching students with special needs. This strategy was identified as the area of highest need in the quantitative investigation (MWDS = 3.54) (see Table 12.6). It was also echoed by qualitative participants who shared their prior experiences of PD related to legal regulations. Emma, for example, felt that training in this area was too faced paced, with a lot of information being presented in a manner that she was unable to absorb it all. Pirtle (2012)
described similar findings, indicating an immediate need to ensure SBAE classrooms provide inclusion strategies to meet the legal requirements of the growing number of students with special needs in general education classrooms.

Table 12.6. PD Need of Louisiana SBAE Instructors Understanding Legal Regulations

<table>
<thead>
<tr>
<th>Variable</th>
<th>Quantitative: MWDS ($n = 64$)</th>
<th>Qualitative: Transcript Quotes</th>
<th>Convergence or Divergence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Understanding legal regulations of teaching students who possess special needs, not only in the classroom but also when including these students in FFA and SAE opportunities</td>
<td>3.54</td>
<td>“they [school district PD presenters] talk about what you [the instructor] have to do and guidelines you [the instructor] have to follow and this law and that law, and it’s all a bunch of information coming at you [the instructor] really fast, so none of it really sticks” (Emma)</td>
<td>Convergence</td>
</tr>
<tr>
<td></td>
<td></td>
<td>“a lot of times the professional development related with students with disabilities is typically a PowerPoint that somebody gets up there and read, and so it’s just the same PowerPoint that they’ve been using since that person took that position, they just updated the numbers, there’s no true diving in” (Hannah)</td>
<td></td>
</tr>
</tbody>
</table>

FFA involvement is considered to be a critical component of a student's experience in a total agricultural education program (Croom, 2008; NAAE, 2021c). Although, from a review of
this investigation's findings, SBAE teachers need PD training centered on implementing accommodations for students in FFA activities (see Table 12.7). If SBAE teachers do not feel competent when accommodating students in FFA activities, students with special needs will be less likely to be included in activities and events. Therefore, a need for training directly influences both the perceptions of teachers and the experiences of students in the total SBAE program. For example, one qualitative participant shared her experience of not receiving a student's accommodations when traveling to the National FFA convention with a student. Ultimately, the teacher identified a lack of knowledge in how to pursue further accommodations for the student, which resulted in the student not receiving her American degree alongside her peers.

Table 12.7. PD Need of SBAE Instructors when Accommodating Students in FFA

<table>
<thead>
<tr>
<th>Variable</th>
<th>Quantitative: MWDS (n = 64)</th>
<th>Qualitative: Transcript Quotes</th>
<th>Convergence or Divergence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Providing accommodations for students when competing in FFA activities</td>
<td>3.31</td>
<td>“there’s times that I just didn’t know enough… it was hard at times… you [the instructor] don’t know how to prove those needs until you actually get there” (Margret)</td>
<td>Convergence</td>
</tr>
<tr>
<td></td>
<td></td>
<td>“the only reason he [the student with exceptionalities] didn’t come was, I think we [the FFA chapter] ran out of room in our van” (Susan)</td>
<td></td>
</tr>
</tbody>
</table>

An additional area of quantitative and qualitative convergence revealed a need for focused PD related to creating accommodations for students with physical disabilities (see Table
12.8. For example, qualitative findings revealed participants’ experiences and overall hesitance when teaching students with physical disabilities, specifically in the shop or laboratory setting, as well as concerns related to the available space and layout of the shop or lab facilities, as they were unsure of what methods would best support students’ accommodations in these unique environments. Agricultural education has struggled with how to best incorporate students with special needs in agricultural educations unique learning environments. Bruwelheide (1985) first identified the challenges experienced by SBAE instructors in Montana when implementing accommodations for students with physical disabilities based on limitations with agricultural facilities.

Table 12.8. PD Need of Louisiana SBAE Instructors when Accommodating Students with Physical Disabilities

<table>
<thead>
<tr>
<th>Variable</th>
<th>Quantitative: MWDS (n = 64)</th>
<th>Qualitative: Transcript Quotes</th>
<th>Convergence or Divergence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creating accommodations for students with physical disabilities</td>
<td>2.65</td>
<td>“you [the student with exceptionalities] have your welding boots, then there’s hot metal everywhere and trying to navigate through that [the shop environment]” (Emma)</td>
<td>Convergence</td>
</tr>
<tr>
<td></td>
<td></td>
<td>“I think space issue can be a concern especially with students who maybe have wheelchairs or those with Cerebral palsy… it’s just something hard to work with” (Margret)</td>
<td></td>
</tr>
</tbody>
</table>
Lastly, I conclude that Louisiana SBAE instructors did not express an urgent need for PD focused on fostering a sense of acceptance and inclusion in their classrooms (see Table 12.9). Participants in both the qualitative and quantitative strands expressed confidence in making their classrooms places where all students were welcome, by commonly utilizing methods to reduce the exclusion of students with special needs in their classes. For example, participants identified they would often provide accommodations to the entire class rather than only the student who requires the accommodation. While inclusion rates continue to increase, participants described acceptance of teaching these students in an inclusive way, which serves to increase the experiences of diverse learners in SBAE classrooms (UDOE, 2020).
### Table 12.9. Utilizing Methods to Foster a Sense of Acceptance Limited PD Need of Participants

<table>
<thead>
<tr>
<th>Variable:</th>
<th>Quantitative:</th>
<th>Qualitative:</th>
<th>Convergence or Divergence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construct Three</td>
<td>MWDS</td>
<td>Transcript Quotes</td>
<td></td>
</tr>
<tr>
<td>(n = 64)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Utilizing methods to foster a sense of acceptance and inclusion for a student with a disability while in the classroom</td>
<td>1.19</td>
<td>“I never want them to feel different than anyone else… to feel like they’re not achieving at the same levels as anyone else… if have to do those things [implement accommodations or modifications], I [the instructor] do that [implement accommodations or modifications] behind the scene.” (Haley)</td>
<td>Convergence</td>
</tr>
<tr>
<td></td>
<td></td>
<td>“a lot of times I [the instructor] just make the class so that the accommodations don’t seem so obvious that almost every kid actually gets the extra time, or, you know, getting the same kind of attention, you know, because I think that helps with the inclusion process of the special education [student(s)] “</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Margret)</td>
<td></td>
</tr>
</tbody>
</table>

### Discussions and Implications

Each year the number of students with special needs has increased in U.S. public schools, resulting in a record high of 14% of students having a documented disability during the 2018–2019 school year. With the continual increase of this population, Pirtle (2012) identified an
immediate need to ensure SBAE classrooms provide accommodations for the inclusion of all students. Efforts to address this immediate need should begin with providing teachers information regarding special education and accommodation strategies through teacher licensure accreditation programs (Stair, 2009). These accreditation programs have established standards to improve the skill sets of applicants when teaching diverse learners (Council for the Accreditation of Educator Preparation [CAEP], 2019; Interstate New Teacher Assessment and Support Consortium [InTASC], 1992).

Sensemaking describes the process of that individuals encounter to demonstrate action. First, *notice* occurs when the individual identifies essential components of the information presented, followed by *interpretation* when the individual processes the information presented (Lycett et al., 2016). Lastly, *action* results from the individual’s response to the information after application of interpretation, where an individual’s prior beliefs may influence their interpretation (Weick, 1995). Findings from this investigation describe inadequate preservice education of SBAE instructors in Louisiana which may result in a lack of availability for participants to experience *notice* and *interpretation*. Because of minimal or insufficient preservice opportunities, SBAE instructors described a need for PD tailored to accommodation methods for specific disability categories and inclusion practices. A lack of understanding on these topics may result in a lack of action to effectively include students with special needs in the SBAE program.

Because a gap may exist in content knowledge about specific disability categories and strategies when teaching students with special needs, *it is possible that further marginalization of students with special needs may be occurring in classrooms*? If SBAE teachers perceive students to be of low ability or are unaware of how to effectively teach certain students, they may
unintentionally reduce experiences and opportunities for these students. Identifying discrepancies between education and ability centered on teaching students with special needs then providing professional development in critical areas, may be the first step in ending discrimination among these students (Aschenbrener et al., 2010; Faulkner & Baggett, 2010; Jobling & Moni, 2004; Johnson et al., 2012; Kessell, 2009; Ruhland & Bremer, 2002; Stair et al., 2019 Jobling & Moni, 2004; Johnson et al., 2012).

To ensure teachers are prepared to work with students with special needs, preservice programs should reach a consensus of courses and/or content in special education that is essential for teacher entering the field. Preservice courses should be focused on specific strategies when teaching and accommodating students with special needs, not only in the classroom but also in FFA and SAE activities. Accreditation programs should also require coursework throughout preservice teachers entire program concerning teaching students with exceptionalities rather than limited coursework consisting of one or two specific courses. Because the development of perceptions and confidence when teaching students with special needs develops over time, more coursework and standards across teacher preparation programs could allow for increased growth and understanding when entering the field resulting in direct action that benefits students with special needs (McCray & McHatton, 2011; Savolainen et al., 2020; Shippen et al., 2005).

This investigation established a ranking for PD needs based on the highest perceived needs of Louisiana SBAE instructors when teaching students with special needs. Future PD should be tailored to specific disability categories and inclusion strategies that instructors can directly apply in their own classrooms (Pirtle, 2012; The National FFA Organization, 1996). By better equipping SBAE instructors when teaching students with special needs through PD events,
instructors have shown greater perceptions of involving students with exceptionalities in FFA and SAE activities (Johnson et al., 2012).

Involvement in FFA has shown positive impacts on student's self-identity, employability upon graduation, and soft skill development (Bowling & Ball, 2020; Hansen et al., 2003; Lundry et al., 2015; NAAE, 2021a). Although the question remains – *How is SBAE serving all students if students with special needs are not routinely encouraged to participate in events or are not being accommodated?* For example, a participant of this investigation shared her experience traveling with a student to the National FFA Convention. Upon arrival, the student's accommodations were not met for the award ceremony. Therefore, the student was unable to receive the same experience as her peers. Alleviation of the posed question should be addressed through immediate evaluation not only at the National level but also at the state level. To effectively serve all students, SBAE must increase the self-efficacy of instructors to encourage the involvement of students with special needs in the total program (Hellmich et al., 2019; Schwab & Alnahdi, 2020) and organizations must ensure that, once included, students are able to compete and participate at the same level as their peers.

**Recommendations**

Based on the investigation’s findings, the following recommendations for special education are suggested for future practice and research in agricultural education.

**Recommendations for Practice**

The results of this investigation should be shared with state agricultural education staff, university staff, and the LATA. These groups should then work collaboratively to utilize findings from this investigation to provide PD events for SBAE instructors in Louisiana to narrow the relevance and ability gap. PD events should not be overarching special education trainings,
instead, they should be centered on specific disability types and/or specific skill competencies. PD events should also be presented during the summer months, to reach the largest audience, specifically at the LATA summer conference along with opportunities provided throughout the year and in individual school districts. In addition, PD events should present methods of accommodating students with special needs which can be directly applicable by SBAE instructors in their classrooms, SAE program and FFA chapters (Johnson et al., 2012; Stair et al., 2010). By providing notice through targeted professional development as well as giving teachers the opportunity for interpretation, action can be developed in SBAE programs.

In addition, licensure programs, both traditional and alternative, should ensure preservice teachers are provided with educational experiences through meaningful content and classroom observations centered on students with special needs. Educational content should prepare teachers through the application of strategies when teaching students in the classroom, but also in extended classroom environments such as shops and laboratories (Hoerst & Whittington, 2009; Kessell, 2009). In addition, coursework should provide information based on specific disability types, as well as the legalities when teaching students with special needs. Preservice teachers should also complete classroom observations to gain firsthand experiences and application of successful strategies when teaching students with special needs.

State agricultural education staff and other Louisiana SBAE stakeholders should encourage the involvement of students with special needs in FFA contests or travel opportunities through inclusive and accessible locations. Further, FFA event hosts should ensure that the process for providing accommodations or modification for students with special needs is clearly communicated prior to the event to allow for the event to truly meet the needs of every student. It is also recommended that trainings should be provided for SBAE instructors on strategies to
include students with exceptionalities in the FFA and SAE components of the agricultural education program (Johnson et al., 2012).

**Recommendations for Research**

Additional research is warranted to identify the most utilized PD platforms of SBAE instructors in the state of Louisiana to better understand how PD can be provided in a way that reaches teachers. To promote more effective implementation of PD events, we must first identify what PD attracts SBAE instructors along with describing the factors these teachers determine to be the most beneficial when attending PD. Due to the COVID-19 pandemic, the methods for providing PD have changed significantly, future research should also determine if these impacts affect the participation and involvement in in-person and virtual PD opportunities in the future.

Further replication of the study can serve to identify the attitudes and PD needs of SBAE instructors when teaching students with special needs on a regional or national level. Replication of this research may allow for the application of PD opportunities offered through regional or national platforms to better serve the needs of SBAE instructors. Further, investigation of the PD needs of SBAE teachers should be conducted regularly to determine the changing needs of the profession when teaching students with exceptionalities.

Due to the diverse educational experiences based on licensure certification methods, future research should also describe what specific components of special education coursework is required in traditional and alternative licensure institutions to reach a consensus of what special education training is being provided at the preservice level (Stair et al., 2019). Further research should also determine preservice teacher’s perceived training needs centered on teaching exceptional students throughout their degree completion, but before entering the field (Hoerst & Whittington, 2009; Kessell, 2005).
Additional research should also be conducted to identify the perceptions and experiences of SBAE instructors when involving students with special needs in FFA and SAE activities. A need exists to better understand specific experiences of students with exceptionalities when seeking to participate in FFA contest or travel opportunities, as well as what needs must be addressed through a student’s SAE project (Dormody et al., 2006). As part of this research, it is essential to identify specific strategies SBAE instructors need when working to engage students with special needs in FFA and SAE activities (Johnson et al., 2012).

Lastly, due to the low response rate, replication of the quantitative instrument should be conducted during an in-person event which would provide access to a larger sample size to increase the generalizability of the investigations findings.
APPENDIX A. IRB APPROVAL LETTER

Stair, Kristin S
TO: LSUAG | Dept | Agricultural and Extension Education and Evaluation
FROM: Michael Keenan
DATE: 05-Oct-2020
RE: IRBAG-20-0028
TITLE: Louisiana School-Based Agriculture Education Instructors Preparation and Perceptions When Working with Students with Exceptionalities
SUBMISSION TYPE: Initial Application
Review Type: Exempt
Risk Factor: Minimal
Review Date: 05-Oct-2020
Status: Approved
Approval Date: 05-Oct-2020
Approval Expiration Date: 04-Oct-2023
Re-review frequency: (three years unless otherwise stated)
Number of subjects approved: 330
LSU Proposal Number:

By: Michael Keenan, Chair

Continuing approval is CONDITIONAL on:

1. Adherence to the approved protocol, familiarity with, and adherence to the ethical standards of the Belmont Report, and LSU’s Assurance of Compliance with DHHS regulations for the protection of human subjects*
2. Prior approval of a change in protocol, including revision of the consent documents or an increase in the number of subjects over that approved.
3. Obtaining renewed approval (or submittal of a termination report), prior to the approval expiration date, upon request by the IRB office (irrespective of when the project actually begins); notification of project termination.
4. Retention of documentation of informed consent and study records for at least 3 years after the study ends.
APPENDIX B. INSTRUMENT PERMISSION

Raegan Ramage
Tue 3/10/2020 1:31 PM
To: John Kessell <jkessell@boe.jackson.k12.wv.us>

Dr. Kessell,

Thank you so much!

Get Outlook for iOS

... 

Reply | Forward

John Kessell <jkessell@boe.jackson.k12.wv.us>
Tue 3/10/2020 11:06 AM
To: Raegan Ramage

Of course you can use anything you need. I will try to find the documents and send them to you. If I can be of any assistance please let me know.

John Kessell

... 

Raegan Ramage
Tue 3/10/2020 11:00 AM
To: jkessell@boe.jackson.k12.wv.us

Dr. Kessell,

I hope you are having a great week!

I am currently completing my master's at Lousiana State University; my work focuses on agriculture educator's perspectives when working with students who possess special needs. While completing my work, I have found your dissertation, which I think serves as a vital component of my projected work. I am reaching out in hopes of receiving permission to use sectors of the instrument that you used within your dissertation. Thank you for your time reading my message, and I look forward to your response. I want to express how valuable I find your work to be.

Thank you again,

Raegan Ramage
Graduate Assistant
Department of Agricultural Extension Education and Evaluation
Louisiana State University
225A J.C. Miller Hall, Baton Rouge, LA, 70802
P: (662) 832-8117
APPENDIX C. PRE-NOTICE EMAIL

Subject: Working with Students with Special needs in Louisiana Agriculture Classrooms

Teachers,

I am reaching out to ask for your help with a study we will be conducting over the next few weeks to better understand the professional development needs of agriculture teachers in Louisiana when working with students with special needs. This study is being led by Raegan Ramage, a master’s student at Louisiana State University who is completing her thesis research work.

In the next few days, you will receive another email with a survey link. We hope that you will be able to take approximately 20 minutes of your time to tell us more about what professional development needs you may have related to working with students with special needs in your classrooms! Your response to this survey is important and will help advance the teaching and professional development practices within agriculture education in our state.

To further express appreciation for your participation, three participants will be randomly selected to receive a $25 dollar Amazon gift card.

Please keep an eye out for the next email that will contain the survey! We appreciate your time and consideration in helping us with this research.

Many thanks,
Dr. Kristin Stair
Associate Professor
Department of Agricultural and Extension Education and Evaluation,
Louisiana State University
135 J. C. Miller Hall
Baton Rouge, LA 70803
Office 225-578-6128
kstair@lsu.edu | lsu.edu

Raegan Ramage
Graduate Assistant
Department of Agricultural Extension Education and Evaluation
Louisiana State University
225A J.C. Miller Hall, Baton Rouge, LA, 70802
P: (662) 832-8117
APPENDIX D. EMAILS TO PARTICIPANTS

Subject: Working with Students with Special needs in Louisiana Agriculture Classrooms

Teachers,

We are reaching out to ask for your help in understanding the professional development needs of agriculture teachers in Louisiana when working with students with special needs. This study is being led by Raegan Ramage, a master’s student at Louisiana State University who is completing her thesis research work. The focus of her work centers on education and training as well as areas of needed professional development of the agriculture educators in our state when working with students with special needs.

She is asking agriculture educators, like yourself, to reflect on your prior education and training experiences working with students with special needs while also identifying needed areas of professional development when working with these students.

Your response to this survey is important and will help advance the teaching and professional development practices in agriculture education in our state.

The survey should take approximately twenty minutes to complete. Please click on the link below to go to the survey website (or copy and paste the survey link into your internet browser) to begin the survey.

Survey Link: http://lsu.qualtrics.com/jfe/form/SV_0DqNhHz69VSVIX

Your participation in this survey is entirely voluntary, and all of your responses will be kept confidential. To further express our appreciation, three participants will be randomly selected to receive a $25 dollar Amazon gift card. No personally identifiable information will be associated with your responses in any reports of this data. Should you have any further questions or comments, please feel free to contact her at rramag1@lsu.edu or (662) 832-8117.

Thank you for participating in this study! It is only through the help of educators like yourself that we can continue to identify areas of improvement for professional development and teacher training.

Many thanks,

Raegan Ramage
Graduate Assistant
Department of Agricultural Extension Education and Evaluation
Louisiana State University
225A J.C. Miller Hall, Baton Rouge, LA, 70802
P: (662) 832-8117
Subject: Working with Students with Special needs in Louisiana Agriculture Classrooms

My name is Raegan Ramage, and I am currently completing my master's degree at Louisiana State University. The focus of my work centers on identifying the professional development needs of agriculture educators in our state when working with students with special needs.

I am asking agriculture educators, like yourself, to reflect on your prior education and training experiences working with students with special needs as well as identifying areas of professional development that you may need when working with these students.

Your response to this survey is important and will help to advance the teaching and professional development practices in our state.

The survey should take approximately twenty minutes to complete. Please click on the link below to go to the survey website (or copy and paste the survey link into your internet browser) to begin the survey.

Survey Link: http://lsu.qualtrics.com/jfe/form/SV_0DqNhlnz69YSVIX

Your participation in this survey is entirely voluntary, and all of your responses will be kept confidential. To further express my appreciation for your participation, three participants will be randomly selected to receive a $25 dollar gift card to Amazon. No personally identifiable information will be associated with your responses in any reports of this data. Should you have any further questions or comments, please feel free to contact me at ramage1@lsu.edu or (662) 832-8117.

I appreciate your time and consideration in completing the survey. Thank you for participating in this study! It is only through the help of educators like yourself that we may continue to identify needed areas of improvement with the training and professional development practices.

Many thanks,
Raegan Ramage
Graduate Assistant
Department of Agricultural Extension Education and Evaluation
Louisiana State University
225A J.C. Miller Hall, Baton Rouge, LA, 70802
P: (662) 832-8117

Dr. Kristin Stair
Associate Professor
Department of Agricultural and Extension Education and Evaluation,
Louisiana State University
135 J. C. Miller Hall
Baton Rouge, LA 70803
Office 225-578-6128
Subject: Working with Students with Special needs in Louisiana Agriculture Classrooms

I hope you are having a great semester so far!

Last week, you received a reminder email about a survey related to the professional development and training needs of agriculture teachers when working with students with special needs. I am hoping that you may be able to give us about twenty minutes of your time to help collect information for my thesis work focused on understanding your prior education and training experiences related to working with students with special needs.

I understand how valuable your time is, and if you have already completed the survey, I appreciate your participation. If you have not yet responded, we would like to urge you to please take some time to help us!

Please click the link below to go to the survey website (or copy and paste the survey link into your Internet browser) and then complete the survey.

Survey Link: http://lsu.qualtrics.com/jfe/form/SV_0DqNhlnz69VSVIX

Your participation in this survey is entirely voluntary, and all of your responses will be kept confidential. To further express our appreciation, three participants will be randomly selected to receive a $25 dollar gift card to Amazon. No personally identifiable information will be associated with your responses in any reports of this data. Should you have any further questions or comments, please feel free to contact me at rramag1@lsu.edu or (662) 832-8117.

Thank you,
Raegan Ramage
Graduate Assistant
Department of Agricultural Extension Education and Evaluation
Louisiana State University
225A J.C. Miller Hall, Baton Rouge, LA, 70802
P: (662) 832-8117

Dr. Kristin Stair
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Louisiana State University
135 J. C. Miller Hall
Baton Rouge, LA 70803
Office 225-578-6128
kstair@lsu.edu | lsu.edu
APPENDIX E. QUALITATIVE INSTRUMENT OUTLINE

Consent Form for a Non-Clinical Study

Study Title: Louisiana School-Based Agriculture Education Instructors Preparation and Perceptions When Working with Students with Exceptionalities

Purpose: The purpose of this study is to identify Louisiana school-based agriculture education instructors’ (a) previous education and training regarding teaching students with special needs and (b) desired professional development opportunities regarding accommodating students with exceptionalities. To accomplish this, participants will participate in a Borich model survey of their perceptions of working with students with special needs through the Qualtrics platform. Participants will then complete a brief demographic survey portion on Qualtrics. In addition, at the end of the survey, participants will be asked if they are willing to participate in an interview via Microsoft Teams, to reflect on experiences teaching students with special needs. To increase confidentiality of the participants’ identity, no video recording would be used to capture the interview; instead, the researchers will only capture audio using a separate audio recording device. We anticipate that the virtual interview will last for one and half (1.5) hours. Further, when reporting all data, only pseudo-names will be used.

Risks: The research presents no more than minimal risk of harm to subjects and involves no procedures where private or protected information beyond subjects’ demographics and occupational details. However, every effort will be made to maintain the confidentiality of the study records. Files will be kept in secure, password encrypted files to which only the investigator has access to.

Benefits: Subjects participation is on a volunteer basis only. After completion of the survey portion of this study, teachers will be able to enter their name for a random drawing of three $25 amazon gift cards. Additionally, this survey could benefit agricultural education by providing valuable information related to agricultural educators in Louisiana.

Investigators: The following investigators are available for questions about this study, Ms. Raegan Ramage (contact 662-832-8117; rramag1@lsu.edu); Dr. Kristin Stair (919-649-7019; kstair@lsu.edu); Dr. Joey Blackburn (contact 225-578-7892; jjblackburn@lsu.edu); and Dr. Richie Roberts (336-314-7191; roberts3@lsu.edu).

Performance Site: The data collection will occur virtually by anonymous survey submissions using Qualtrics survey and an interview occurring on Microsoft Teams. No video recordings will be captured; instead, the research will use an audio recording device. After, the interview is transcribed, all audio recordings will be deleted.

Number of subjects: The maximum number of participants to be included in this study is 300 with a limit of 30 participants participating in the qualitative interview portion.
**Inclusion Criteria:** Individuals included are those who teach agriculture education in the state of Louisiana and for the pilot survey, 30 teachers who live in Mississippi. To participate in this study, subjects must meet the requirements of both the inclusion and exclusion criteria.

**Exclusion Criteria:** Individuals who are not currently agriculture education instructors in the state of Louisiana or Mississippi.

**Right to Refuse:** Subjects may choose not to participate or to withdraw from the study at any time without penalty or loss of any benefit to which they might otherwise be entitled.

**Privacy:** Results of the study may be published, but no names or identifying information will be included in the publication. Subject identity will remain confidential unless disclosure is required by law.

**Signatures:**
The study has been discussed with me and all my questions have been answered. I may direct additional questions regarding study specifics to the investigators. This study has been approved by AgCenter IRB. For questions related to this study, or your rights as a participant, please contact Dr. Phil Elzer at 225-578-4763 or pelzer@agcenter.lsu.edu.

I agree to participate in the study described above.

_____ I agree to participate in this study
Name: ________________________________      Date: __________________________

_____ I do not agree to participate in this study

Your information collected as part of the research, even if identifiers are removed, may be used or distributed for future research.

_____ Yes, I give permission for my information to be used as part of future research
Name: ________________________________      Date: __________________________

_____ No, I do not agree to have my information used in future research

**Instrument- Focus Group Interview Draft (4-6 participants per session)**

**Central Questions**

**Demographics:**
- Name
- Gender
- Including this year, number of years teaching
- Certification method- alternative or traditional route
1. Could you tell me about your teaching career involvement with students with special needs thus far?

*Sub-questions (if needed)*
- Have you taught students with special needs before?
- What level of education or training centered on working with students with disabilities?
- When setting up your classroom, do you take into account creating a least restrictive environment?
- What are some goals you set for yourself when working with students with disabilities?
- What do you recognize as a strength in yourself when teaching students with disabilities?
- What do you recognize as a weakness in yourself when teaching students with disabilities?

2. In regard to confidence, do you feel prepared overall when working with students who possess any type of disability?

*Sub-questions (if needed)*
- Do you identify any areas you were not prepared for when working with special needs students?
- Do any types of student disabilities prove more intimidating than others?
- How often do you work with students with special needs?
- Would you say your classroom and other facilities are accessible to all students?
- Do you feel as though you have adequate support when working with students who have special needs?

3. Do you feel as though relevant professional development opportunities are offered to enhance your knowledge and skill level of working with students who possess special needs within the agriculture education classroom?

*Sub-questions (if-needed)*
- How long has it been since you have engaged in training regarding working students with special needs through professional development or college courses?
• Who do you feel should offer these professional development opportunities?
• Would you attend professional development events focused on working with students with disabilities, if offered?
• Have you asked or requested for an increase in the frequency of these opportunities?
• Do you feel that current professional development opportunities are effective, why or why not?
• What aspects do you feel are unique to the format of agriculture education classroom when working with students with special needs?

4. If you had a student who entered your classroom with documentation stating they have severe dyslexia, how would you approach instructing this student?

   **Sub questions (if-needed)**
   • Would you provide any additional accommodations for those required through their documentation?
   • At what point would you implement their documented accommodations (immediately, when they begin to underperform, when they ask for them)?
   • What methods of accommodation would you provide this student in the agricultural mechanics shop or greenhouse facilities?
   • Have you ever received formal training centered on working with students with dyslexia or other specific learning disabilities?
   • Do you recognize student(s) who have dyslexia presenting diverse performance in your classroom when compared to a student without this disability?

5. If you had a student enter your classroom who was wheelchair bound, how would you approach adapting your classroom and facilities to promote success of the student?

   **Sub questions (if-needed)**
   • Do you feel as though your classroom and other facilities are currently set up in a format that is easy to navigate for all students?
   • Do you have experience working with a student with a mobility deficit?
   • Would a student who is wheelchair bound be able to engage with learning opportunities in your greenhouse, agricultural mechanics shop or animal science (school farm) facilities?
   • Have you ever received formal training on working with students who possess mobility deficits within the agriculture education classroom?
   • Do you feel as though students who possess mobility deficits are deterred from taking your courses because of their disability?
6. Optional question- Provide participants with a picture of an agriculture education classroom and ask them to identify areas they would modify for students with disabilities. Reason to allow insight into how agriculture education instructors feel a classroom should be set up to best accommodate students. Questions of interest- will they identify areas of needed adjustment, is classroom accessibility something they think about when setting up their own classrooms, do they provide inclusive environments or do they force students into possibly uncomfortable situations, what knowledge do they have about methods of creating an inclusive environment

7. For my final question, I want you to reflect on your responses during this interview. Are there are statements you would wish to modify or change? Are there any questions I should have asked but did not?
APPENDIX F. QUANTITATIVE SURVEY INSTRUMENT

Agriculture Educators of Louisiana

Consent

Study Title: Louisiana School-Based Agriculture Education Instructors Preparation and Perceptions When Working with Students with Exceptionalities  Purpose: The purpose of this study is to identify Louisiana school-based agriculture education instructors’ (a) previous education and training regarding teaching students with special needs and (b) desired professional development opportunities regarding accommodating students with exceptionalities. To accomplish this, participants will participate in a Borich model survey of their perceptions of working with students with special needs through the Qualtrics platform. Participants will then complete a brief demographic survey portion on Qualtrics. In addition, at the end of the survey, participants will be asked if they are willing to participate in an interview via Microsoft Teams, to reflect on experiences teaching students with special needs. To increase the confidentiality of the participants’ identity, no video recording would be used to capture the interview; instead, the researchers will only capture audio using a separate audio recording device. We anticipate that the virtual interview will last for one and a half (1.5) hours. Further, when reporting all data, only pseudo-names will be used. Risks: The research presents no more than minimal risk of harm to subjects and involves no procedures where private or protected information beyond subjects’ demographics and occupational details. However, every effort will be made to maintain the confidentiality of the study records. Files will be kept in secure, password encrypted files to which only the investigator has access to. Benefits: Subjects participation is on a volunteer basis only. After completion of the survey portion of this study, teachers will be able to enter their name for a random drawing of three $25 amazon gift cards. Additionally, this survey could benefit agricultural education by providing valuable information related to agricultural educators in Louisiana. Investigators: The following investigators are available for questions about this study, Ms. Raegan Ramage (contact 662-832-8117; rramag1@lsu.edu); Dr. Kristin Stair (919-649-7019; kstair@lsu.edu); Dr. Joey Blackburn (contact 225-578-7892; jjblackburn@lsu.edu); and Dr. Richie Roberts (336-314-7191; roberts3@lsu.edu). Performance Site: The data collection will occur virtually by anonymous survey submissions using Qualtrics survey and an interview occurring on Microsoft Teams. No video recordings will be captured; instead, the research will use an audio recording device. After the interview is transcribed, all audio recordings will be deleted. Number of subjects: The maximum number of participants to be included in this study is 300 with a limit of 30 participants participating in the qualitative interview portion. Inclusion Criteria: Individuals included are those who teach agriculture education in the state of Louisiana and for the pilot survey, 30 teachers who live in Mississippi. To participate in this study, subjects must meet the requirements of both the inclusion and exclusion criteria. Exclusion Criteria: Individuals who are not currently agriculture education instructors in the state of Louisiana or Mississippi. Right to Refuse: Subjects may choose not to participate or to withdraw from the study at any time without penalty or loss of any benefit to which they might
otherwise be entitled. **Privacy:** Results of the study may be published, but no names or identifying information will be included in the publication. The subject identity will remain confidential unless disclosure is required by law. This study has been approved by AgCenter IRB. For questions related to this study or your rights as a participant, please contact Dr. Phil Elzer at 225-578-4763 or pelzer@agcenter.lsu.edu.

**Thank you again for your participation!**

Please indicate your willingness to complete the survey.

- **Yes, I consent to my participation in this study.** Please do not forget to enter your email address at the end of the survey to enter into a drawing for a $25 gift card! (1)

- **No, I do not consent to my participation in this study.** (2)

**Q1** I have experience teaching students with special needs in my classroom.

- **Yes, I do** (1)

- **No, I do not wish to participate** (4)
Please rate your perceived level of importance for each of the following disability categories on a scale of 1 (one) through 4 (four), with 1 being the lowest level and 4 being the highest based on your perceived degree of relevance. Relevance in this statement refers to how important it is for teachers to understand the disability as well as the resulting educational impacts for a student who possesses the disability.

Please rate your perceived level of competence in working with each of the following disability categories on a scale of 1 (one) through 4 (four), with 1 being the lowest level and 4 being the highest rated competence. Competence in this statement is measured as your ability to accurately and efficiently execute accommodations for students who possess the outlined disability.

<table>
<thead>
<tr>
<th>Disability Category</th>
<th>1. Irrelevant (1)</th>
<th>2. Slightly Relevant (2)</th>
<th>3. Moderately Relevant (3)</th>
<th>4. Extremely Relevant (4)</th>
<th>1. Not Competent (1)</th>
<th>2. Slightly Competent (2)</th>
<th>3. Moderately Competent (3)</th>
<th>4. Extremely Competent (4)</th>
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<tr>
<td>Attention Deficit Hyperactivity Disorder (ADHD) (2)</td>
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<td>Autism Spectrum Disorder (7)</td>
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<td>Blindness or Visual Impairment (4)</td>
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<td>Deaf or Hearing Impairment (3)</td>
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<td>Emotional or Behavioral Disorder (5)</td>
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<td>Intellectual Disability (1)</td>
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<td>Orthopedic Impairment (6)</td>
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<td>Other health impairments (NOT including ADHD)</td>
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<td>(i.e. epilepsy, anemia, diabetes, heart conditions, etc.)</td>
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<td>Specific Learning Disabilities (Such as dyslexia, dysgraphia, etc.)</td>
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<td>Speech or Language Disabilities (11)</td>
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<td>Traumatic Brain Injury (12)</td>
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Q2
Please rate your perceived level of importance for each of the following disability categories on a scale of 1 (one) through 4 (four), with 1 being the lowest level and 4 being the highest based on your perceived **degree of relevance**. Relevance in this statement refers to how important it is for agriculture teachers to be able to perform the skill within their classrooms.

Please rate your level of personal attainment for each of the following statements on a scale of 1 (one) through 4 (four), with 1 being the lowest level and 4 being the highest, based on your perceived **degree of attainment**. Attainment in this statement refers to your ability to successfully perform the skill within your classroom.

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<thead>
<tr>
<th>1. Irrelevant (1)</th>
<th>2. Slightly Relevant (2)</th>
<th>3. Moderately Relevant (3)</th>
<th>4. Extremely Relevant (4)</th>
<th>1. No Attainment (1)</th>
<th>2. Slight Attainment (2)</th>
<th>3. Moderate Attainment (3)</th>
<th>4. Successful Attainment (4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Understand special education law. (1)</td>
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<td>Providing an inclusive classroom atmosphere for students with special needs. (2)</td>
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<td>Effectively participating in Individualized Educational Plan (IEP) development procedures. (3)</td>
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<td>Receiving adequate education and training for working with students with special needs</td>
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through in-service opportunities. (4)

Following the requirements found in special education legislation. (5)

Modifying assignments or activities according to a student’s IEP. (6)

Successfully evaluating the academic performance of students who have special needs. (7)

Providing appropriate and challenging learning opportunities for all students. (8)

Managing behavior of students with special needs. (9)
<table>
<thead>
<tr>
<th></th>
<th>Providing inclusive travel opportunities for students with disabilities.</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>Working with students who possess any type of disability.</td>
</tr>
<tr>
<td>11</td>
<td>Seeking out additional resources to better prepare oneself for working with students who possess any type of disability.</td>
</tr>
<tr>
<td>12</td>
<td>Attending professional development events focused on working with students with disabilities.</td>
</tr>
<tr>
<td>13</td>
<td>Working with students within the FFA chapter.</td>
</tr>
</tbody>
</table>

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Providing physical accommodations for students with special needs. (14)

Involving students with special needs in the FFA chapter. (15)

Q3
Please rate your perceived level of importance for each of the following statements on a scale of 1 (one) through 4 (four), with 1 being the lowest level and 4 being the highest based on your perceived **degree of relevance**. Relevance within this statement refers to the perceived importance of all agricultural teachers understanding the topic within their classrooms.

Please rate your perceived level of attainment for each of the following statements on a scale of 1 (one) through 4 (four), with 1 being the lowest level and 4 being the highest, based on your perceived **degree of attainment**. Attainment in this statement refers your ability to successful perform the skill within your classroom.

<table>
<thead>
<tr>
<th></th>
<th>1. Irrelevant (1)</th>
<th>2. Slightly Relevant (2)</th>
<th>3. Moderately Relevant (3)</th>
<th>4. Extremely Relevant (4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creating a least restrictive classroom environment for all students. (1)</td>
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<tr>
<td>Understanding legal regulations of working with students who possess special needs, not only in the classroom but also when including these students in FFA and SAE opportunities. (2)</td>
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<tr>
<td>Utilizing methods of accommodating students</td>
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</table>
with special needs while in the classroom. (3)

Utilizing methods of accommodating students with special needs in extended classroom environments (i.e. shop, barn, greenhouse, etc.) (4)

Implementing procedures outlined within a student’s IEP. (5)

Providing accommodations for students when competing in FFA activities. (6)

Providing accommodations for students when competing in Supervised Agricultural
Experience (SAE) activities. (11)

Identifying approved practices when working with students with special needs. (7)

How to best communicate with students with special needs when building a mentorship. (8)

Creating accommodations for students with physical disabilities. (9)

Utilizing methods to foster a sense acceptance and inclusion for a student with a disability while in the classroom. (10)
Q4

Q5 Gender
   ○ Male (1)
   ○ Female (2)
   ○ Other (3)
   ○ Choose not to respond (4)

Q6 Age

Q7 Including this year, how many years have you taught?

Q8 Highest level of education obtained
   ○ Bachelors Degree (1)
   ○ Masters Degree (2)
   ○ Specialist / 6th Year Certificate (3)
   ○ Doctoral Degree (4)
Q9 Licensing Certification Method

- Traditional - license obtained from a Bachelors of Science program (1)
- Traditional - license obtained from a Masters of Science program (2)
- Alternative - any other means of certification (please specify) (3)

Page Break

Q10 Did you take a course in college that presented methods of working with the special needs population, if so, was the course:

- Required (1)
- An elective (2)
- I have never taken a course that deals with the special needs population. (3)

Skip To: Q13 If Did you take a course in college that presented methods of working with the special needs population... I have never taken a course that deals with the special needs population.

Page Break

Q11 How many course hours related to working with the special education population did you complete?

________________________________________________________________

Q12 How was the course related to working with the special education population?

________________________________________________________________

Page Break
Q13 Have you participated in in-service opportunities focused on teaching students with special needs through the school system, professional organizations, teacher conferences, etc.?

- Yes (1)
- No (2)

Display This Question:
If Have you participated in in-service opportunities focused on teaching students with special needs... = Yes

Q13.2 How many contact hours of in-service have you completed that directly relate to working with special needs students?

________________________________________________________

Q14 Have you spent time with a person with special needs outside of an academic setting?

- Yes (1)
- No (2)

Display This Question:
If Have you spent time with a person with special needs outside of an academic setting? = Yes

Q14.2 If yes, to what capacity or what was the relationship with that individual (i.e. neighbor, friend, family member, etc.)?

________________________________________________________
Q15 Under what platform are you most likely to participate in a professional development event centered on working with students with special needs?

- School District professional development training (1)
- Louisiana Ag Teachers Association professional development training (2)
- University sponsored trainings (3)
- Other, please specify (4) ________________________________________________

Q16 On a scale of 1 (one) through 4 (four), with 1 being the least important and 4 being the most important, how important do you think professional development opportunities focused on working with students with special needs are as an agriculture education teacher? (1)

1. Not Important (1)  2. Somewhat Important (2)  3. Moderately Important (3)  4. Very Important (4)

[ ] [ ] [ ] [ ]
Q17

<table>
<thead>
<tr>
<th>1. Very unlikely (1)</th>
<th>2. Somewhat Likely (2)</th>
<th>3. Moderately Likely (3)</th>
<th>4. Very Likely (4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>On a scale of 1 (one) through 4 (four), with 1 being the least likely and 4 being the most likely, how likely are you to attend an in-service event focused on working with students with special needs? (1)</td>
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</table>

Q18 Please indicate if you would be willing to participate in a follow-up interview to further discuss your perceptions of working with students with special needs. Please note, if you participate in the focus group interview, that will count as an additional entry into the random gift card drawing.

- [ ] Yes (5)
- [ ] No (6)

Q18.2 Please enter your name, phone number, and email address that serve as the best point of contact.

____________________________________________________________________
____________________________________________________________________
_________________________________ _________________________________
Q19 Please indicate if you would like to be entered into the random drawing for a $25 gift card as an expression of appreciation for your participation within this study.

○ Yes (1)
○ No (2)

Display This Question:
If Please indicate if you would like to be entered into the random drawing for a $25 gift card as an... = Yes

Q19.2 Please enter your name and email address that serve as the best point of contact, if you are selected as a winner.

End of Block: Default Question Block
REFERENCES


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https://doi.org/10.5032/jae.2001.02028

https://doi.org/10.1177/0145445512442682

https://www.naae.org/profdevelopment/magazine/archive_issues/Volume47/v47i11.pdf

https://doi.org/10.1177%2F1053451217693370

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VITA

Raegan Elizabeth Ramage was born in 1998 in Oxford, Mississippi, where she was raised on a small hobby farm. Raegan has had a passion for agricultural education since her time as a secondary student through her involvement in FFA. Her passion for agriculture has expanded through teaching youth about all aspects of the agricultural industry. She completed her Bachelors of Science in Agricultural Education, Leadership, and Communication, with a concentration on education, from Mississippi State University in the fall of 2019. Following graduation, she moved to Louisiana in pursuit of her Masters of Science degree in Agricultural and Extension Education from Louisiana State University. She plans to receive her Master’s this May 2021, Raegan then plans to teach secondary agricultural education.