

Collaborative Efforts between Agricultural and Special Education Teachers to  
Enhance Inclusion of Students with Disabilities into Agricultural Education

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## **Abstract**

This study was conducted to determine experiences of southwestern Virginia high school agricultural and special education teachers with regards to the collaboration that may or may not exist between them to enhance the learning of students with special needs (SWD) taking agricultural education classes. It also sought to determine factors that motivate or inhibit collaboration, strategies for overcoming the barriers that may exist, and indicators of effective collaboration between these teachers.

The following research questions were answered by conducting the study.

1. What is the status of collaboration between agriculture and special education teachers to enhance inclusion of students with disabilities?
2. What factors exist that either motivate or inhibit collaboration between agriculture and special education teachers with regards to enhancing the inclusion of student with disabilities in agricultural education classes and laboratories?
3. If barriers exist that inhibit collaboration between agriculture and special education teachers, what strategies might be implemented to overcome them?
4. What indicators reveal the establishment and continuation of effective collaboration between agriculture and special education teachers with regards to enhancing SWD learning in agricultural education classrooms and laboratories?

The researcher used interviews as the qualitative research tool. Convenience, criterion, and purposeful sampling were used by the researcher to identify participants to best answer the studies' research questions. Overall, collaboration between agricultural and special education teachers did exist. The frequency of collaboration depended on many factors. In most schools the frequency was limited due to a number of barriers. Examples of these barriers included, but were not limited to, lack of knowledge of each teacher regarding the other teacher's discipline, case overload for special education teachers, lack of time provided for collaboration, and the physical distance between the agricultural and special education departments. Examples for

overcoming the barriers included, but were not limited to, enhanced communication via technology, creative scheduling to allow for collaboration, and provision of professional development to enhance the knowledge of each teacher regarding the discipline of the other teacher.

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## **General Audience Abstract**

This study was conducted to determine experiences of southwestern Virginia high school agricultural and special education teachers with regards to the collaboration that may or may not exist between them to enhance the learning of students with special needs (SWD). It also sought to determine factors motivating or inhibiting collaboration, strategies for overcoming the barriers that may exist, and to show indicators of effective collaboration.

Sixteen secondary teachers were interviewed by the researcher. Eight secondary agriculture and eight special education teachers were participants. Overall, the working relationship between agriculture and special education teachers did exist. Their working relationship depended on many factors. In most schools, the frequency was limited due to a number of barriers. Examples of these barriers included, but were not limited to, lack of knowledge of each teacher regarding the other teacher's discipline, case overload for special education teachers, lack of time for collaboration, and the physical distance between the agricultural and special education departments. Examples for overcoming the barriers included, but were not limited to, enhanced communication through technology, creative scheduling, and improving training to increase the knowledge of each teacher regarding the discipline of the other teacher.

## **Dedication**

To Family. Mom Dad and Lucas. I would have never been here without you. Thank you for the absolute love, support, and guidance.

To Lauren. Your patience, love, and encouragement kept me moving forward. Thank you for everything.

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## **Chapter 1**

### **Introduction**

Agricultural Education has provided opportunities for all students to foster personal, professional, and academic growth within comprehensive secondary schools and secondary technology centers throughout the United States since its inception in the early 1900's. In 1975, the Education for All Handicapped Children Act provided the first legislation for a free and appropriate public education (Public 94-142) for students with disabilities (SWD). The Individuals with Disabilities Education Act of 2004 (IDEA) increased educational results-based accountability within public schools and required differentiated instruction that created equitable education for students with disabilities in a least restrictive environment (Kinder, Kubina, & Marchand-Martella, 2005). Agricultural education courses, programs, and activities can provide a more flexible learning space for SWD to reach their educational needs as compared to academic courses. Based on enrollment, secondary agricultural education courses have appeared to be an appealing set of courses for SWD (Wonacott, 2001). Elbert and Baggett (2003) recount that agricultural education gained enrollment because of its task-based content that later provided employment opportunities for SWD. Secondary agricultural education provided personal and life skills education that other programs cannot provide.

### **Background of the Study**

Within public education, the population of SWD in the United States has increased. From the years 1991 to 2007, the number of students receiving services or accommodations for special education increased in population by two million students from approximately 4.7 million students to approximately 6.7 million students (National Center for Educational Statistics, 2008). According to the National Center for Educational Statistics (2018), over 6.5

million students, or approximately 14 percent of public education students participated in special education services or accommodations from 2015 to 2016. In addition, enrollment of SWD within secondary agricultural education courses was higher as compared academic courses (Giffing & Warnick, 2012). The United States Department of Education reported approximately 11 percent of all graduates were identified as SWD as compared to the 18 percent of SWD enrolled within secondary agricultural education classes (2005). Pense, Calvin, Watson, and Wakefield (2012) reported approximately 23 percent of students enrolled within secondary agricultural education programs are identified as students with specific learning disabilities. Pense, et al. (2012) stated that the future of the agriculture industry potentially faces a shortage of laborers if this generation of students is not prepared through agricultural education programs. Agricultural education teachers welcomed the concept of inclusion and SWD into their classrooms but perceived themselves as providing inadequate instruction (Giffing, Warnick, Tarpley, & Williams, 2010). The authors (2010) suggested their lack of confidence arises from a lack of knowledge and skills needed to work specifically with SWD. They accepted the idea of equitable education, but do not believe they offer students inclusion at its highest efficiency.

Teachers have multiple reasons for their uncertainty of inclusion within the context of secondary agricultural education. De Lay and Burden (2012) stated agricultural education teachers struggled with regards to adapting agricultural content for SWD. The authors additionally stated that agricultural education teachers struggled with understanding what an inclusionary “learning environment” looked like in a secondary agricultural education class. Pavelock and Harlin (2013) reported teachers face hardships while constructing differentiated lesson planning and afterwards implementing the differentiated lesson planning into practice for SWD. Dormody, Seevers, Andreasen, and Vanleeuwen (2006) reported agricultural education

teachers were more comfortable when offering inclusive settings for students with communication barriers as it compared to including students with other disabilities. Giffing, et al. (2010) suggested agricultural education teachers had a positive outlook while including students with autism and hearing impairments but were less positive while including students with visual impairments and blindness. Age also served as an indication of uncertainty for including SWD into agricultural education programs. Stair, Moore, Wilson, Croom, and Jayaratne (2010) reported older agricultural education teachers were not as confident including SWD as compared to the younger agricultural education teachers.

Secondary agricultural education teachers have opportunities to improve instruction of SWD through pre-service, in-service, and professional development programs. Johnson, Wilson, Flowers, and Croom (2012) recommended that the secondary agricultural education profession should create pre-service and in-service training programs specifically focused on creating accommodations and modifications for SWD. Johnson, et al. (2012) also stated that training teachers for inclusion and SWD should occur throughout the duration of the teacher preparation program to better prepare agricultural education teachers for inclusion. Filson and Whittington (2011) suggested additional training be allocated towards including SWD within agricultural education teacher training programs to avoid judicial repercussions from special education litigation. Stair, et al. (2010) reported agricultural education teachers were not satisfied by their teacher preparation programs with regards to preparing them to teach SWD in the field. Filson and Whittington (2011) stated that secondary agricultural education teachers wanted support understanding and contributing to Individualized Education Plans (IEP's) for SWD. Filson and Whittington (2011) additionally reported that secondary agricultural education teachers also needed support understanding educational responsibilities, educational requirements, and special

education laws required by the state with regards to SWD and IEP. Giffing and Warnick (2012) reported durable relationships must exist between the SWD, the secondary special education teacher, the secondary agricultural education teacher, and the parent(s) of SWD for a positive experience within the secondary agricultural education program to occur.

### **Purpose of the Study**

Casale-Giannola (2012) stated that little research has been produced with regards to inclusion within overall secondary CTE. Giffing and Warnick (2012) recommended future research be dedicated towards the relationship between agricultural education teachers and special education teachers to improve inclusion for SWD within secondary agricultural education programs. Kozik, Cooney, Vinciguerra, Gradel, and Black (2009) stated secondary inclusion has been failing within secondary education because of the following obstacles: advanced content, increased instructional pace, increased expectations for SWD, poor study skills for SWD, difficulties with scheduling, and increased testing. Johnson, et al. (2012) reported over 56% of secondary agricultural education teachers cited lower “opportunities” for SWD as a significant barrier to participation within secondary agricultural education programs (p.48). Johnson, et al. (2012) additionally reported “facilities” were an obstacle for inclusion in over 37% of secondary agricultural education teacher respondents. Typically, in comprehensive high schools, the special education department was located a great distance apart from the agricultural education department. Agricultural education programs are usually located in a separate location because of its unique facility requirements and potentially distracting noise from equipment being used during classroom and laboratory instruction. This physical isolation created an unconscious barrier to departmental collaboration. In addition, special education teachers and agricultural education teachers might have different personalities or personal backgrounds that could lead to



communication barriers. Andreasen, et al. (2007) suggested that agricultural education teachers needed to be prompted to contact the special education department or special education teachers to seek assistance modifying instruction for SWD. Many SWD are being “lost” within agricultural education because there is little to no communication between CTE and special education departments (Schmalzried & Harvey 2014). It is the professional obligation, and the law, that both departments work together in preparing all students for the future workforce. Therefore, the purpose of this study was to examine relationships that exist and those that must exist between agricultural education teachers and special education teachers to enhance the provision of agricultural education courses to students with disabilities.

Improving collaboration between secondary agricultural and special education teachers could potentially enhance inclusion for SWD participating within secondary agricultural education programs in southwestern Virginia. Hantzidiamantis (2011) stated collaboration has often been categorized and defined synonymously within the overall educational improvement movement instead of being held as a separate concept. The author (2011) reported that the definition of collaboration throughout the educational field was ambiguous as well as a subjective. Friend and Cook (2012) defined collaboration as two or more educational stakeholders cooperating through: instruction, professional responsibilities, and educational choices to better serve a vast array of students. According to Hamilton-Jones and Vail (2014), teachers believed that overall student performance and knowledge attainment improved for all students when teachers collaborate with one another in a positive manner. Effective collaboration occurred when teachers of different contents or positions shared resources and professional responsibilities (Hamilton-Jones & Vail, 2014, p. 83). If collaboration can be

improved between secondary agricultural education teachers and secondary special education teachers, SWD within secondary agricultural education programs will receive a better education.

### **Statement of the Problem**

Research for inclusion within agricultural education and CTE has historically been dedicated towards identifying challenges of overall inclusion, improving instructional strategies, professional development, pre-service training, in-service training, teacher perceptions, and redesigning curriculum for specific courses. Schmalzried and Harvey (2014) reported, “A significant number of CTE respondents felt that little or no regular communication took place between the special education teacher and the CTE teachers” (p. 145). Secondary agricultural education teachers can include SWD, but do not possess the direction or means to collaborate with special education teachers. Therefore, the problem addressed in this study was to discover the status of collaboration between agricultural and special education teachers when including SWD within their classrooms and laboratories, as determined by agricultural education teachers and special education teachers. The study also discovered factors that motivate or inhibit collaboration, identified “strategies to overcome barriers” of collaboration, and demonstrated “indicators of effective collaboration” in efforts to increase the effectiveness and efficiency of collaboration between secondary special education and agricultural education teachers.

### **Research Questions**

The study was conducted to determine the experiences of southwestern Virginia high school agricultural education teachers and special education teachers with regards to the following research questions?

1. What is the status of collaboration between agriculture and special education teachers to enhance inclusion of students with disabilities?

2. What factors exist that either motivate or inhibit collaboration between agriculture and special education teachers with regards to enhancing the inclusion of student with disabilities in agricultural education classes and laboratories?
3. If barriers exist that inhibit collaboration between agriculture and special education teachers, what strategies might be implemented to overcome them?
4. What indicators reveal the establishment and continuation of effective collaboration between agriculture and special education teachers with regards to enhancing SWD learning in agricultural education classrooms and laboratories?

### **Significance of the Study**

This study was conducted to examine the collaboration that may or may not exist between secondary southwestern Virginia's agricultural education and secondary special education teachers to enhance inclusion of SWD in agricultural education classes/laboratories. Secondary agricultural education classes are a platform for SWD to gain academic content, workplace readiness skills, and build overall human capital that may translate to multiple employment opportunities or positions. Past literature primarily focused on agricultural education teacher perceptions, teacher confidence, and teacher abilities with regards to working with SWD. This study sought to examine the status of southwestern Virginia's agricultural education teachers and special education teachers with regards to collaboration of agricultural and special education teachers to enhance inclusion of SWD in agricultural education classes and laboratories. The results of this study identified factors motivating or inhibiting collaboration between the faculty of the two departments and the strategies for overcoming these barriers. The study identified strategies for overcoming barriers to increase the effectiveness and efficiency of collaboration between secondary special education teachers and agricultural education teachers.

## **Theoretical Framework**

The theoretical framework of this study was based on Ajzen's Theory of Planned Behavior (TPB) from 1991. Five constructs create Ajzen's TPB: perceived behavioral control, attitude, subjective norms, intention, and behavior (Ajzen, 1991). Perceived behavioral control, attitude, and subjective norms collectively and individually influence an individual's intention (Ajzen, 1991). When an individual experiences a strong intention, they are more likely to participate in that specific behavior (Ajzen, 1991). When an individual experiences a weak intention, they are less likely to participate in that specific behavior (Ajzen, 1991). As it relates to this study, agricultural education teachers' attitudes towards collaborating with special education teachers, the subjective norms experienced by the agricultural education teacher with regards to collaborating with special education teachers, and the agricultural education teachers' perceived behavioral control towards collaboration may have an affect on participating in the behavior of collaboration with special education teachers. Additionally, special education teachers' attitudes towards collaborating with agricultural education teachers, the subjective norms experienced by the special education teachers with regards to collaborating with agricultural education teachers, and the special education teachers' perceived behavioral control towards collaboration may have an affect on participating in the behavior of collaboration with agricultural education teachers. The collective intention of agricultural education teachers could determine the effectiveness and efficiency, or lack thereof, of collaborating with special education teachers within comprehensive high schools in southwestern Virginia. The overall intention of secondary special education teachers could determine the effectiveness and efficiency, or lack thereof, of collaborating with agricultural education teachers. Positive intentions of collaborating with special education teachers could result in enhanced inclusion for

SWD in secondary agricultural education classrooms. Weak or negative intentions of collaborating with special education teachers could result in inadequate inclusion for SWD in secondary agricultural education classrooms.

### **Research Methodology**

A qualitative, semi-structured interview, research design was used to conduct this study. Denzin and Lincoln (2005) stated that qualitative research can investigate topics or phenomena that are vast, diverse, and interrelated. Qualitative research creates interpretive meaning from peoples experiences. “Qualitative research, then, is a broad approach to the study of social phenomena” (Marshall & Rossman, 2016, p. 3). Convenience sampling was used to gather participants for the interview based on specific criteria to sufficiently answer the studies’ research questions. Participants of the study included secondary agricultural and special education teachers working within southwestern Virginia. Semi-structured interviews were conducted to attain insight into participants’ experiences. Due to the COVID-19 pandemic of 2020, physical face-to-face interviews were not able to take place between the researcher and the participants. The researcher used the Zoom application as a virtual platform to interview participants in efforts to ensure participant safety and researcher safety. A pilot study occurred to refine the design of the overall study. Data was compared and synthesized throughout the duration of research. Consistent research methods and research procedures were used throughout the study to ensure accuracy and reliability of results and findings. Chapter 3 discussed the methodology for this study in detail.

## Definition of Terms

The following definitions are given to provide clarity and consistency of these terms throughout the remainder of the study. The researcher created all definitions not created by a citation.

***Accommodations:*** assistance and/or support provided by secondary schools for students with disabilities (SWD) to have equal access to content and curriculum.

***Agricultural Education:*** an entity of education that focuses on developing skills for the agriculture industry/workforce or further academic opportunities to do so.

***Agricultural Education Teacher:*** an instructor of an agricultural class, program, or academic competition/event.

***Barriers:*** any obstacles that limit or completely impede communication, performance, and the overall practice of inclusion in secondary schools.

***Career and Technical Education (CTE):*** An educational program that prepares individuals for careers in a variety of occupational industries or provides a foundation to further one's education to prepare for these careers.

***Collaboration:*** the act of secondary school personnel/faculty working cohesively in efforts to improve student performance with available resources.

***Communication:*** the act or exchange of information regarding students, instruction, or instructional practice to improve education for students.

***Comprehensive High School-*** a public, secondary school where agricultural education and CTE is taught at the same campus as other content areas.

**Disability:** “a physical, mental, cognitive, or developmental condition that impairs, interferes with, or limits a person’s ability to engage in certain tasks or actions or participate in typical daily activities or interactions.” (Merriam-Webster 2005).

**Inclusion:** the process that all individuals are equally included and exposed to secondary education regardless of abilities, differences, or circumstances.

**Individualized Education Plan (IEP):** a legal document required by law that outlines goals, services, and accommodations for students with a disability or disabilities to gain equitable educational opportunities within secondary schools.

**Individuals with Disabilities Education Act of 2004 (IDEA):** a federal act of the United States that requires educational equality and educational accountability for students with disabilities.

**Secondary School:** a public school at the high-school level or equivalent.

**Secondary School Administrator(s):** an individual or individuals that manage and supervise educational programs in a high school.

**Special Education:** an entity of education that provides students with accommodations, modifications, supplemental instruction, and other related services for students to have an equitable educational experience.

**Special Education Teacher:** an instructor of a special education class, program, or academic competition/event.

**Students with Disabilities (SWD):** “a student who has a physical or mental impairment that substantially limits one or more major life activities, has a record of such an impairment, or is regarded as having such an impairment” (Department of Education,1999).

**Virginia Department of Education (VDOE):** the governing agency for schooling and education in the Commonwealth of Virginia.

**Workplace Readiness Skills (WRS):** *personal and professional attributes that an individual possesses to gain employment.*

### **Limitations**

As with any study, there are limitations imposed by extraneous variables. This study contained the following limitations.

1. Due to possible failure of participants to answer with candor, results may not accurately reflect the opinions of all members of the included population.
2. Due to the difference in participant profession within education, the results may not be as accurate.
3. The study is constricted to the knowledge, experience, and memories of the participants involved.
4. Participants understand that they have been selected for the study and may or may not be influenced by the notion that they are a part of a study that seeks to answer its research questions.
5. Due to the agricultural education teaching experience of the researcher, interviews and interpretation of the data could be influenced by this experience. However, *every* effort was made to conduct the entire study with objectivity.

### **Delimitations**

The following are the imposed delimitations of this study:

1. Limited to secondary comprehensive schools in southwestern Virginia.
2. Limited to agricultural education teachers and special education teachers.
3. Limited to classroom and laboratory settings of inclusion for southwestern Virginia agricultural education programs (excluding CTSO's).



## **Assumptions**

The following are the imposed assumptions of this study:

1. Students with disabilities will socially and educationally benefit from more efficient collaboration between agricultural education teachers and special education teachers.
2. Agricultural education teachers and special education teachers are endorsed for their positions by the Virginia Department of Education (VDOE) in Virginia.
3. Agricultural education teachers and special education teachers have experience within a southwestern Virginia comprehensive secondary school regarding inclusion and including SWD.
4. All participants responded truthfully to the semi-structured interview questions.

## **Chapter Summary and Organization of Remaining Chapters**

Chapter 1 provided an introduction, background of the study, purpose of the study, statement of the problem, research questions, significance of the study, theoretical frameworks, methodology, definition of terms, limitations, delimitations, and assumptions. Chapter 2 encompassed a review of related literature and research regarding inclusion within the agricultural education classroom and collaboration barriers between secondary agricultural and special education teachers. Chapter 3 contained the research methodology, research design, questions, and instruments used to conduct the study. Chapter 3 also presented the number of participants used, data collection methods, and analysis procedures. The results of analyses and findings are presented in Chapter 4. Chapter 5 provided a summary of the study findings, a conclusion drawn from the findings of Chapter 4, a discussion, recommendations for future research, and final remarks from the researcher.

## **Chapter 2**

### **Review of Related Literature**

#### **Introduction**

The purpose of this chapter is to provide detailed information gleaned from an extensive review of literature. This review contains the theoretical framework for the study, principles of school collaboration, co-teaching model, challenges of inclusion within secondary AGED, teacher collaboration within secondary education, teacher collaboration within CTE, and international teacher collaboration within secondary vocational education. The chapter begins with an overview of the theoretical framework and concluded with a summary of the chapter.

#### **Theoretical Framework**

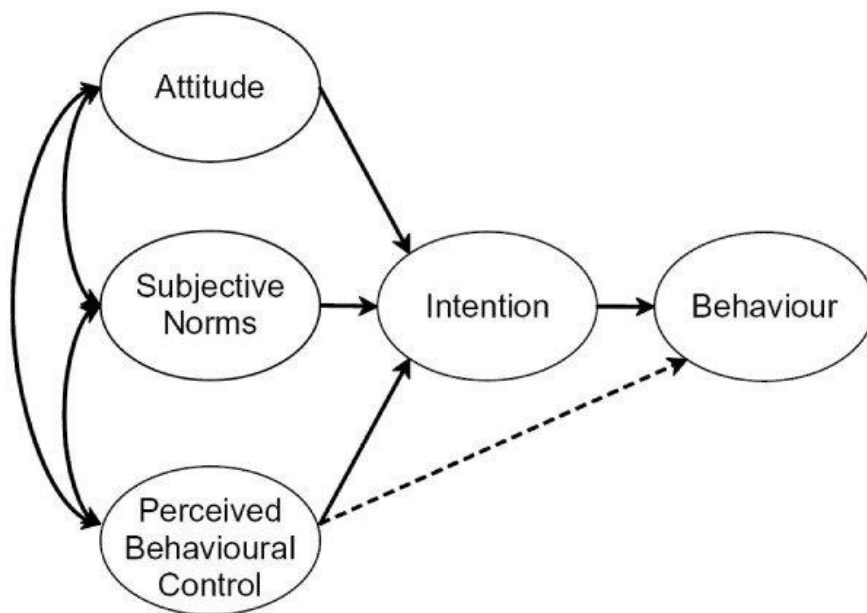
##### **Introduction**

Ajzen's Theory of Planned Behavior (TPB) served as the theoretical framework for this study. Five constructs create the foundation of this theory. They are as following: perceived behavioral control, attitude, subjective norms, intention, and behavior (Ajzen, 1991). An individual's intention is a vital aspect of the TPB because it is one's strength of intent, or lack of intent, directly relating to the actual performance of behavior (Ajzen, 1991). Intention is created or determined through the relationship between perceived behavioral control, attitude, and subjective norms (Ajzen, 1991). Ajzen (1991) reported that perceived behavioral control, attitude, and subjective norms make separate contributions in creating the intention construct. Ajzen (1991). Perceived behavioral control, attitude, subjective norms, and intention are interconnected and have the capability to potentially predict and explain human behavior (Ajzen, 1991). The author stated that the TPB was constructed in efforts to explain an individual's behavior within a certain context (1988).

An individual's set of beliefs create their perceived behavioral control, attitude, and subjective norms. Ajzen (1991) stated that control beliefs influence the perceptions of behavioral control, behavioral beliefs influence attitude, and normative beliefs determine subjective norms. According to Fishbein and Ajzen (2010), a person's beliefs are created by education, personal experiences, and a multitude of other sources (p. 20). According to Shepard, Hartwick, and Warshaw (1988), an important assumption regarding Ajzen's TPB (1991) was that an individual has complete behavioral control over themselves with regards to the behavior under investigation. Miller, Furman, and Jackson (2018) reported that the TPB can "provide evidence of the causes of behavior and thus can serve as a means to change or influence the desired behaviors of an individual." Ajzen's TPB (1991) was used as a theoretical foundation for this study in an attempt to fully answer the research questions. The model presented in Figure 1 provides a visual picture of the relationships among the various components of Ajzen's theory. It is followed by a discussion of the TPB's constructs.

**Figure 1**

*Ajzen's Theory of Planned Behavior*



## **Perceived Behavioral Control**

The perceived behavioral control construct was the first construct in discussed of Ajzen's theory discussed. It is a determinant of the intention construct. The perceived behavioral control construct was created by control beliefs. Control beliefs are the primary or important beliefs that lie behind an individual's perceived behavioral control (Ajzen, 1991). The author stated that control beliefs may be created from an individual's past; or more often, by factors that influence the perceived level of difficulty or perceived level of ease to complete the actual performance of the behavior under investigation. Control beliefs can additionally be created by an individual receiving second-hand information or accounts of other's experiences with regards to the behavior under investigation. Wallston (2001) stated the assumption that an individual does have entire behavioral control over his or her behavior with regards to the specific behavior under investigation within the perceived behavioral control construct.

The perceived behavioral control construct also contained the assumptions that an individual's past experiences are considered as well as the individual's anticipated obstacles that could arise with regards to the behavior under investigation (Ajzen, 1991, p.191). Ajzen (1991) stated that the perceived behavioral control construct is a determinate of the actual performance of behavior under investigation as well as being a determinant of intention. The attitude construct and the subjective norms construct are determinants of intention under the TPB, but do not have the ability to directly influence the actual performance of the behavior under investigation. According to Ajzen (1991), "perceived behavioral control refers to people's perception of the ease or difficulty of performing the behavior of interest" (p. 183). The author also stated that the perceived behavioral control construct can change with regards to different contexts and behaviors (Ajzen, 1991). The author stated that the construct of perceived

behavioral control becomes unrealistic if an individual does not understand or have knowledge with regards to the behavior under investigation (Ajzen, 1991). An individual's confidence also affects an individual's perceived behavioral control. A person with a higher confidence regarding the behavior under investigation is more likely to perform the behavior under investigation rather than an individual who experiences lower confidence with regards to the behavior under investigation (Ajzen, 1991). The attitude construct was discussed following this section.

### **Attitude**

Attitude is the second construct in Ajzen's TPB (1991) and is also determinant of the intention construct. Attitude, under the TPB, is categorized as either negative or positive in the form of a response to the behavior under investigation (Perloff, 2014). According to Ajzen (1991), the attitude construct refers to "the degree to which a person has a favorable or unfavorable evaluation or appraisal of the behavior in question" (Ajzen, 1991, p. 188). Under the TPB, the attitude construct focuses solely on the individual's attitude towards the behavior under investigation and excludes the individual's attitude towards other individuals, items, or establishments (Ajzen, 1991).

Behavioral beliefs are the primary or important beliefs that lie behind an individual's attitude (Ajzen, 1991). An individual's primary or important beliefs about the behavior under investigation, or behavioral beliefs, determines the overall attitude towards the behavior within the context of the TPB (Ajzen, 1991). Ajzen (1991) stated that the primary or important beliefs links to the individual's perception of the behavior under investigation as well as with a following result from performing the behavior. The author stated that overall attitude construct is decided by the individual's perceived outcome accompanying the behavior under

investigation. If an individual believes that performing the behavior under investigation will lead to positive results or attributes, they will have a positive attitude towards the actual performance of the behavior under investigation. If an individual believes that performing the behavior under investigation will lead to negative results or attributes, they will have a negative attitude towards the actual performance of the behavior under investigation (Ajzen, 1991). The subjective norms construct was discussed following this section.

### **Subjective Norms**

The subjective norms construct is the third construct in Ajzen's TPB (1991) and is the third determinant of the intention construct. Different from behavioral beliefs and control beliefs that develop the perceived behavioral control construct and the attitude construct respectively, normative beliefs of an individual lie behind the development of the subjective norms construct (Ajzen, 1991). Normative beliefs are primary or important beliefs of an individual's perception with regards to the acceptance or disapproval from others when the individual performs the behavior under investigation (Ajzen, 1991).

Ajzen (1991) stated that the subjective norms construct is developed by an individual's perception of the extent or degree of social pressure that is placed on the individual to perform or not to perform the behavior under investigation. The author stated that under the subjective norms construct, individuals are more likely to perform the behavior under investigation if they believe that other individuals or other groups will later accept the behavior under investigation. Under the construct of subjective norms, the author also stated that individuals are less likely to perform the behavior under investigation if they believe that other individuals or other groups will later not accept the behavior. The intention construct was discussed following this section.

## **Intention**

The intention construct is the fourth construct discussed of Ajzen's TPB (1991). The author stated that an individual's intention is a "central" factor to perform or not perform a specific behavior under investigation as it relates to the TPB (Ajzen, p. 181). As shown in the center of the model provided in Figure 1, the constructs and the relationships between the following constructs: attitude, subjective norms, and perceived behavioral control create the construct of intention. An assumption of the intention construct is that the construct collects facets of motivation that influence the behavior under investigation (Ajzen, 1991). Another assumption with regards to the intention construct is that an individual's ability to interact as well as an individual's motivation will affect the actual performance of the behavior under investigation.

According the TPB, the actual performance of the behavior under investigation is more likely to happen if the individual has a strong intention to take part in the behavior under investigation (Ajzen, 1991). The actual performance of the behavior under investigation is less likely to happen if the individual has a weak intention to take part in the behavior under investigation. The construct of intention will only find the expression behind the behavior under investigation if the individual being examined has the choice to perform, or the choice not to perform the behavior under investigation (Ajzen, 1991, p. 182). The behavior construct was discussed following this section.

## **Behavior**

Behavior is the last construct discussed of Ajzen's TPB (1991). With regards to the TPB, the actual performance of the behavior under investigation results from a dual relationship of the perceived behavioral control construct and the intention construct (Ajzen, 1991, p. 185).

Multiple conditions must be met in order for the TPB to accurately predict the behavior under investigation. The first condition for the TPB to accurately predict the actual performance of the behavior under investigation is that the perceived behavioral control construct and the intention construct must be investigated within the same context as where the performance of the behavior will transpire (Ajzen, 1991). The second condition for the TPB to accurately predict the actual performance of the behavior under investigation was the perceived behavioral control construct and the intention construct must remain constant and steady throughout the investigation process to the end of evaluation process (Ajzen, 1991). The author stated that the third condition that must be met in order for the TPB to accurately predict the behavior under investigation is that the perceived behavioral control must be “realistic” with regards to the perception of an individual’s actual behavioral control. Ajzen (1991) reported that the significance of the relationship between intention and perceived behavioral control can fluctuate depending on the behavior under investigation and situation. “Both, intention and perceptions of behavioral control, can make significant contributions to the prediction of behavior, but in any given application, one may be more important than the other” (Ajzen, 1991, p. 185). A conclusion of the TPB is located below.

### **Theoretical Framework Conclusion**

Ajzen (1991) concluded that the TPB is a valuable conceptual framework when attempting to understand a behavior because the theory integrates major components of behavioral sciences and social sciences. The following constructs: perceived behavioral control, attitude, and subjective norms altogether have the potential to accurately forecast intention if all assumptions are met (Ajzen, 1991, p. 206). If the specific behavior under investigation is researched within the same context, the TPB is a useful framework to understand and potentially predict human behavior (Ajzen, 1991). Ajzen’s Theory of Planned Behavior was used as the



theoretical framework for this study because the study was conducted to identify and analyze the behavioral beliefs of secondary agricultural education teachers when collaborating with secondary special education teachers in comprehensive high schools. The principles of school collaboration were discussed below.

### **Principles for School Collaboration**

The principles for school collaboration were discussed in this section. Cook and Friend (1991) defined school collaboration as “a style for direct interaction between at least two co-equal parties voluntarily engaged in shared decision-making as they work toward a common goal” (p. 6). The authors suggested that the act of school collaboration must be voluntary with equality between team members. Another characteristic of school collaboration was that members share responsibilities, resources, ownership, and outcomes (Cook and Friend, 1991). Additionally, Cook and Friend (2010) stated that school collaboration members must trust other members and the trust should increase throughout the collaboration process. Cook and Friend also suggested that members must believe that the collaboration time and the collaboration effort are meaningful.

Cook and Friend (1991) suggested the following principles of school collaboration:

Principle 1: Collaboration can exist, but collaboration is not a prerequisite to a majority of schools;

Principle 2: Collaboration can occur informally;

Principle 3: The development of collaboration needs time;

Principle 4: Collaboration is not a remedy to fix all problems;

Principle 5: Collaboration may potentially create ethical issues for SWD.

School collaboration was different from school-to-school. Friend and Cook (1992) concluded that the complexity and flexibility of school collaboration is an apparent attribute. The authors (1992) also suggested that the complexity and flexibility of school collaboration can also become a weakness in schools if not applied properly. Friend and Cook (1992) ended by stating the following factors that make school collaboration effective: adequate understanding, proper determination of value for adults and children, and how to apply school collaboration in specific contexts. The co-teaching model of collaboration was discussed below.

### **The Co-teaching Model**

The co-teaching model was the collaborative model of instruction used to best answer the research questions of this study. The definition of the co-teaching model was a collaborative partnership between the special education teacher and the general education teacher working within the general education setting to instruct SWD (Sileo, 2011). Within the co-teaching model, teacher partnerships can vary in form depending on the instructional situation (Davila, Kolano, and Coffey, 2017). Villa, Thousand, and Nevin (2013) stated the co-teaching model is well recognized within special education. According to Ploessl, Rock, Schoenfeld, and Banks (2010), the success of the co-teaching model depends on the collaborative relationship formed between teachers before and during the instructional experience. Friend, Cook, Hurley-Chamberlain, and Shamberger (2010) stated the general education teacher is responsible for content and content delivery; the special education teacher adds instructional skill throughout the process with regards to adapting instruction specifically for the needs of the SWD. Chanmugam and Gerlach (2013) reported the co-teaching model can improve effectiveness, professional skills, and improve personal development for the teachers. The next section discussed challenges of inclusion within secondary agricultural education.

## **Challenges of Inclusion within Secondary Agricultural Education**

Major challenges arose when including students with disabilities (SWD) in a secondary agricultural education classrooms and laboratories. Agricultural educators often question their ability to offer adequate accommodations for SWD. According to Elbert and Baggett (2003), secondary agricultural educators did not assess themselves as competent in sufficiently following Individualized Education Plans (IEP) or Individual Vocational Education Plans (IVEP). Regulations for special education were sometimes not met in agricultural education classrooms and laboratories because the teacher had little knowledge of the laws regarding SWD. Andreasen, Seevers, Dormody, and VanLeeuwen (2007) reported agricultural teachers in New Mexico stated they needed to become more competent as it related to inclusion and special education regulations regarding SWD. Many agricultural teachers do not understand legislation regarding SWD and consider legislation knowledge to be high-priority training for them (Andreasen, et al., 2007). According to Hoerst and Whittington (2009), teachers did not feel competent in creating learning objectives and educational goals for an IEP. Stair et al. (2010) reported the need for increased realistic in-service training opportunities for reading IEP's for secondary agricultural educators. Johnson, Wilson, Flowers, and Croom (2012) concluded that SWD are often given limited academic opportunities, as compared to other students, because secondary agricultural education teachers are unaware of specific special education accommodations or modifications needed to transition SWD into secondary agricultural education classrooms and laboratories.

## **Inclusion within Classrooms and Laboratories in Agricultural Education**

Secondary agricultural educators sometimes struggle with inclusion of SWD in their classroom or laboratories because they cannot collaborate with their peers within an inclusionary

classroom setting. Teachers are open to inclusion but require more information and resources with regards to an inclusive classrooms (Hoerst & Whittington, 2009). Teachers did not receive the proper quantity or quality of resources that are needed to create a successful inclusionary classroom setting (Dormody, et al., 2006). Agricultural education classrooms are not equipped with assistive technology and instructional support for inclusion to function at the secondary level of education. Johnson et al. (2012) stated facilities for inclusionary student-placements are not adequate for SWD to meet their potential within an agricultural education classroom. A major need for improvement was adapting previous facilities to cooperate with secondary inclusion (Andreasen, et al., 2007). Many secondary agricultural education classrooms are educationally obsolete as it relates to the facilities and equipment required to meet the current demands of an inclusive classroom. Pense (2009) suggested that secondary agricultural education programs may be in jeopardy of legal lawsuits if classrooms are not properly resourced and restructured to provide accommodations and modifications for SWD.

### **Differences in Geographical Socioeconomic Areas**

The overall lack-of-resources within secondary agricultural education programs can potentially be linked to the socioeconomic status of the area where the secondary agricultural education program geographically resides. In addition, Pense (2009) reported extremely impoverished socioeconomic areas are thought to have a higher enrollment of SWD in rural schools (p. 87). Within these rural areas, SWD had a higher enrollment in secondary agricultural classrooms as compared to suburban or urban secondary agricultural education classrooms. Suburban and urban secondary agricultural education teachers are more likely provided with additional resources and have access to special education services as compared to rural

secondary agricultural education teachers. Pense (2009) stated that nearly 72% of secondary agricultural education programs are located within rural, low-socioeconomic areas.

### **Teacher Perception**

Early career secondary agricultural teachers have a greater amount of challenges teaching SWD in comparison to veteran secondary agricultural education teachers. According to Aschenbrener, Garton, and Ross (2010), early career agricultural education teachers believed that inclusion competencies was one of the most difficult teacher competencies needed for them to be a successful teacher. The authors (2010) also stated that some secondary agricultural education teachers believed they struggle collaborating with secondary general education teachers with regards to inclusion. Andreasen et al. (2007) suggested collaborative in-service opportunities with special education professionals are beneficial for young secondary agricultural education teachers to improve inclusion within classrooms. Andreasen et al. (2007) also suggested secondary agricultural education teachers can greatly improve their instructional competencies related to SWD by learning first-hand within an inclusive classroom. Dormady et al. (2006) stated that veteran secondary agricultural education teachers had a less-perceived challenge of including SWD within agricultural classrooms.

Data also demonstrated that secondary agricultural educators are willing to include SWD in their classroom. Johnson et al. (2012) reported 97% of secondary agricultural education teachers believed SWD received the same educational benefits as compared to other students when exposed to secondary agricultural education (p. 45). Results show that while SWD have greater barriers within the classroom setting they receive the same learning opportunities as compared other students. Dormody et al. (2006) reported the more formal training secondary agricultural education teachers received the more likely they could provide SWD a successful

inclusionary classroom. The more prepared a teacher was for inclusion, the more effective the teacher perceived themselves to be inside of the agricultural education classroom.

Agricultural education teachers also reported that different types of disabilities created varying levels of obstacles within their classroom. Aschenbrener et al. (2010) stated that an agricultural education teacher's largest obstacle when instructing SWD was when the student has behavior issues along with their disability. Students without behavior problems were easier to include inside of a secondary agricultural education classrooms and laboratories. Dormody et al. (2006) stated that communication disabilities were often a challenge for secondary agricultural education teachers. The authors (2006) also stated that the more experience a secondary agricultural education teacher had with SWD, the less-perceived challenge the teacher had with communication disabilities. Dormody et al. (2006) stated that physical disabilities, other health impairments (OHI), and specific learning disabilities did not present as large as an instructional obstacle as compared to behavioral disabilities for secondary agricultural education teachers.

### **Agricultural Education Curriculum Design and Adaptation for SWD**

Issues arose within secondary agricultural education classrooms because teachers did not efficiently design curriculum to accommodate SWD. Pense (2009) gave the following suggestions regarding accommodations and modifications of curriculum within secondary agricultural education classrooms:

- More visuals;
- Study guides;
- Outlines of notes;
- Modified and guided worksheets;
- Visual and printable diagrams;

- Hands-on activities for different levels of intelligences.

Pense (2009) stated that only 60% of secondary agricultural education programs were suitable for Specific Learning Disabilities (SLP) with regards to curriculum design and adaptation. Successful agricultural education teachers redesigned learning objectives into smaller portions in efforts to make content more accessible for SWD. According to Elbert and Baggett (2003), the lowest teaching competency for secondary agricultural education teachers was the ability to deliver diversified teaching strategies and methods to provide appropriate instruction for SWD. Redesigned curriculum for an inclusionary agricultural education classroom was a major instructional obstacle among secondary agricultural education teachers. Hoerst and Whittington (2009) stated that secondary agricultural education teachers have historically been more efficient teaching SWD when they have experience with experimental learning methods and teaching strategies that stimulate multiple senses (p. 49).

All students benefit from curriculum redesign and adaptation if curriculum was redesigned with the appropriate learning objectives. Pense, Calvin, Watson, and Wakefield (2012) suggested redesigned learning objectives had a positive impact on content retention for SLP as it related to original agricultural education learning objectives. The original learning objectives are often vague and do not meet the specific learning requirements for SWD. Pense et al. (2012) also suggested that redesigned curriculum increased student knowledge for students without a disability as well. In one of his studies, both control groups demonstrated higher content retention and attainment with the redesigned curriculum within the secondary agricultural education classroom (Pense et al., 2012).

## **Agricultural Education Teacher Training Programs**

Improvements to traditional agricultural teacher education programs need to be made with regard to developing knowledge and skills associated with inclusion of SWD's. Much more attention must be given to inclusion in both pre-service and in-service training.

### **Pre-service Training**

Aschenbrenner et al. (2010) suggested that young teachers do not believe they are prepared for classroom inclusion upon completion of a pre-service teacher education program. Dormody et al. (2006) stated that young professionals require pre-service professional development specifically dedicated to inclusion of SWD. Current teacher preparation programs are not using practical methods needed to prepare young teachers for the inclusive secondary agricultural education classroom. As it related to inclusion, pre-service programs are not instilling confidence within their young professionals to succeed in the agricultural education classroom. Stair et al. (2010) argued that, "Because of accountability and legal issues involved in education, it is good that teachers generally feel confident in these areas. However, because of the importance of these issues, teacher education programs should strive to raise the confidence levels higher" (p.98). Many young career agricultural education teachers exit the field because they have little confidence instructing SWD and the overwhelming number of SWD enrolled within secondary agricultural education classrooms. Pense, Watson, and Wakefield (2010) reported that teacher preparation programs should dedicate more effort towards the concept of inclusion for its agricultural education students. Students are graduating programs without understanding inclusion of SWD.



## **In-service Training**

In-service agricultural teacher training programs are currently not dedicating content to effectively teach SWD. Johnson et al. (2012) suggested that in-service training should address how to modify classroom projects to meet the needs of SWD. Johnson et al. also stated that secondary agricultural education teachers must be taught how to utilize those accommodations. Other than instruction, Hoerst and Whittington (2009) stated that, “More training in collaborating and communicating with team members is also needed” (p.48). There are communication barriers between secondary agricultural and special education teachers. In-service training opportunities should encourage cohesion between agricultural education teachers and special education teachers (Andreasen et al., 2007). Elbert and Baggett (2003) added that training should be focused on special education plans because secondary agricultural education teachers want to understand special education documents.

## **Teacher Collaboration Within Secondary Education**

Including SWD within classrooms and laboratories has been a daunting task for secondary teachers. According to Palmer (2003), the rise of student accountability and student diversity within formal education was adding pressure for teachers as compared to professional demands of the past. Palmer (2003) also suggested that the teaching profession has been experiencing more pressure, apart from student accountability demands and increased student diversity, to: offer enriching learning opportunities, providing engaging learning environments, and remaining instructionally creative for students. Pellegrino, Weiss, and Regan (2015) stated that having SWD inside of classrooms adds to the pressure and responsibilities of secondary teachers. The added pressure has been a call for more efficient collaborative practices between secondary special education teachers and secondary teachers. Greater collaboration will provide SWD the

best opportunities that formal education can offer within secondary education classrooms. Arthaud, Aram, Breck, Doelling, and Bushrow, (2007); Friend and Cook (2012) defined teacher collaboration as “special educators and general educators working together to create accessible instruction” for SWD (p. 187). Ghazzoul (2018) defined teacher collaboration as collective planning, problem solving, and the process of making decisions within an educational context (p.2129). As education evolves, inclusion and SWD participating within general educational settings will proportionately increase. According to Arthaud et al. (2007), almost 48% of all SWD across the United States’ public school systems are participating in general education classrooms over 79% of their time within formal schooling. The increasing number of SWD located within secondary classrooms is a call for additional professional collaboration between secondary school personnel to adequately include SWD. The National Association of Secondary School Principals (NASSP) suggested that secondary school administrators must create a professional educational environment for secondary school personnel to improve school performance and subsequently student performance by means of promoting collaborative leadership and increasing collaborative learning opportunities for staff (2004).

### **Teacher Collaboration Within CTE**

Career and Technical Education (CTE) has served as an effective educational platform for SWD for many years (Casale-Giannola, 2012). Many researchers have conducted studies that focused on inclusion within secondary education, but there is limited research regarding collaboration and inclusion within CTE (Casale-Giannola, 2012). Worrell (2008) identified poor collaboration between secondary instructional staff and minimal support from school administrators for collaboration as the two of the largest obstacles for SWD participating in CTE programs. According to The National Center on Secondary Education and Transition (NCSET),

collaboration and the support for collaboration within CTE was crucial for SWD to meet inclusionary demands and to increase student performance (2009). Schmalzried and Harvey (2014) stated the amount of professional collaboration within CTE programs was directly related to the success of SWD within CTE programs. Participation in IEP meetings for SWD and continual collaboration throughout the school year with special education and CTE teachers is a problem within CTE. In 2008, only 40% of secondary CTE teachers helped or participated within the student transition process for SWD participating in CTE programs (NCSET, 2009). Secondary CTE teachers often perceived themselves as having low-participation in the creation and implementation the student's IEP (Cotton, 2000). Secondary special education teachers and secondary CTE teachers alike are required to instruct and to develop SWD, but the two positions are vastly different. According to Schmalzried and Harvey (2014), secondary special education teachers do not contain adequate or sufficient knowledge of the responsibilities and objectives required to become an effective secondary CTE teacher (p. 71).

### **Evaluation of Students with Disabilities Within CTE**

Evaluating the performance of SWD within CTE has evolved since students began being labeled as SWD within education. Historically, Fuertes (1999) stated that a SWD's competence was measured, assessed, and reported within the context of CTE by the student's ability or inability to perform a vocational skill. CTE has used multiple methods of evaluation for SWD in the past. According to Chadd and Drage, (2006); Gaona (2004), evaluation of SWD's performance was also evaluated by the students' ability or inability to attain employment that related to their instruction or training during their time within a CTE program. Additionally, Casale-Giannola (2012) reported that academic courses and CTE courses have limited assessments for SWD to evaluate performance (p. 33). Most program evaluation methods are

based solely on the performance of a skill for SWD within CTE programs rather than assessing teacher collaboration at the school-level.

### **Evaluation of Teacher Collaboration**

According to Gajda (2006) and Dufour, Eaker, and Dufour (2005) the evaluation of interpersonal collaboration within education was complex but recommended that evaluation of teacher collaboration was also vital for improvement within schools. The complexity of collaboration evaluation and the collaboration evaluation process also depended on the understanding of collaboration overall for the evaluator as well as the individual or individuals being evaluated. Gajda and Koliba (2007) stated that educational evaluators were discovering their role of interpersonal collaboration within the evaluation process. To initially improve collaboration evaluation within education, Gajda and Koliba (2007) suggested that evaluators must have collaboration stated and clearly defined as it related to the program's outcomes or goals to create a common ground within the organization (p. 34). Educational funding for special education has also deterred the evaluation of collaboration within schools. Hamel (2003) reported that reduced funding for special education has limited the management of special education and the overall evaluation of special education school personnel.

Evaluation methods and procedures have emerged to better assess intradepartmental collaboration within schools and community programs. O'Sullivan and D'Agostino (2002) reported the following mixture of procedures for improved collaborative evaluation: initial planning of the evaluation process, demonstrations regarding evaluation, assistance with collaborative technology, and programs that promote collaboration have a direct benefit collaboration evaluation. Improved contact and communication between educational stakeholders and educational evaluators are another method to improve the evaluation process of

collaboration within education. Rodriguez-Campos (2012) reported that continuous communication between the evaluators and the individuals being evaluated will improve data analysis, data collection, and overall evaluation design. The authors (2012) also suggested that continuous communication between the two parties made results more understandable for the individuals being evaluated. Horsch (1999) urged that overall program evaluation and the evaluation of collaboration within a program must remain separate to negate bias and misrepresentation of results.

### **International Teacher Collaboration and Teaching Students with Disabilities Within Secondary Vocational Education**

Literature was reviewed concerning secondary vocational education collaboration among teachers in countries from across the world. International literature was additionally reviewed with regards to teaching SWD within vocational education. In the United States, Career and Technical Education (CTE) was the title or name given to the educational system dedicated to preparing students for the workforce. Internationally, CTE, or vocational education has different names or titles. Vocational Education and Training (VET) and Technical and Vocational Education and Training (TVET) are other names, titles, or acronyms used in countries outside the United States that prepares students for the workforce. Vocational education systems throughout the world were reviewed to examine the status of teacher collaboration and teaching SWD within VET and TVET educational systems.

#### **Teaching Students with Disabilities in Vocational Education and Training**

The Australian VET system produced the most research studies that focused on teaching SWD within VET. Australia's VET system experienced a dramatic increase in enrollment of SWD between the years of 1998 to 2003 from 53,475 students to 91,439 students (Cavallaro,

Foley, Saunders, and Bowman, 2005). According to the authors (2005), SWD experienced lower 12-year VET certificate attainment as compared to other students. Cavallaro et al. (2005) reported 55% of the SWD left the VET program before the student's tenth year of education. Griffin, Beddie, and the National Centre for Vocational Education Research (2011) recommended the Australian VET system must continue efforts to collect data with regards to participation rates and performance outcomes of SWD within the VET system to improve instruction for SWD. The National VET Equity Advisory Council (2011) demanded consistency with regards to defining disability within the VET system in efforts to improve VET for SWD. Lamb, Maire, Walstab, Newman, Doecke, and Davies (2018) found that SWD within Australian VET were placed in specific programs depending on the student's individual needs. The authors (2018) also found student success had been hindered because of insufficient supports within the Australian VET system for SWD.

### **Teaching Students with Disabilities in Technical and Vocational Education & Training**

African TVET systems produced the most research studies with regards to teaching SWD in TVET. Malle, Pirttimaa, and Saloviita (2015) reported SWD in Ethiopia's TVET system experience minimal learning and training opportunities. The authors (2015) stated the following barriers for inclusion of SWD in Ethiopian TVET: adaptive educational facilities, adaptive educational materials, lack of trained teachers, and common exclusion of SWD. According to Murgor, Changa, and Keter (2014), many SWD in Kenya are restricted from entering the Kenyan TVET system due the students' having insufficient literacy and numerical skills prior to entering the TVET system. According to Ngubane-Mokiwa and Khoza (2016), TVET teachers in South Africa could not support SWD technological learning needs because teachers had insufficient technological: knowledge, teaching strategies, and teaching resources. Buthelezi

(2014) found that students with a physical disability could not physically access South African TVET institutions due to a lack of physical accommodations. Mutanga (2017) concluded by identifying a large disconnection between TVET policy and TVET practice with regards to teaching and training for SWD within the South African TVET system. Mosalagae and Lukusa (2016) suggested TVET policy failed within Botswana and other Sub-Saharan countries due to the lack of policy transition from national TVET policy to local TVET policy. The authors (2016) stated that TVET policy did not consider the local cultural values and beliefs. The lack of cultural consideration within policy caused inclusion to fail at the local level.

### **International Conclusion**

Limited research has been produced with regards to teacher collaboration between vocational teachers internationally at the secondary level. More frequently, teacher collaboration within VET and TVET was found in higher vocational education as compared to secondary vocational education. Teacher collaboration research internationally focused on vocational education teachers' collaborative relationship between relevant industry stakeholders as a platform to improve the performance of VET and TVET. The research regarding teaching SWD within vocational education internationally shared major themes as the literature produced within the United States in the same context. Positive themes produced within the literature included increased participation of SWD, increased employment opportunities of SWD, and opportunities to conduct future research. Negative themes produced within the literature are lack of teaching resources, facilities without accommodations, high dropout rates for SWD, lack of teacher training, lack of teacher professional development, and an overall lack of understanding of the concept of inclusion. Moving from international secondary vocational education research, the

next section of this literature review focused on recommendations for domestic CTE teacher collaboration.

### **Recommendations for Secondary CTE Teacher Collaboration**

The literature produced with regards to CTE teacher collaboration suggested positive advice for secondary CTE to improve its educational opportunities for SWD. Harber and Sutherland (2008) recommended that secondary CTE teachers have the potential to benefit CTE programs by having secondary CTE teachers attend IEP meetings for SWD. Harber and Sutherland (2008) additionally suggested CTE teachers must actively pursue specific, working relationships with all stakeholders of SWD in efforts to improve student performance within CTE. Historically, there has been a cultural division between general education and special education that inhibited teacher collaboration between academic professionals (Bruder & Dunst, 2005; Harn et al., 1999; Friend 2000; Rainforth & England, 1997; Welch, 1998b).

Many teachers do not understand the concept of inclusion and collaboration. Secondary CTE teachers must understand that teacher collaboration encompasses a team effort and that all individuals participating within the collaborative team share a sense of mutual responsibility to perform the task (Downing & Baily, 1990). The authors (1990) also suggested that effective collaboration was unique to each situation and effective collaboration could produce different outcomes of knowledge acquisition and skill attainment for students. From an administrative standpoint, adequate planning of CTE and special education does not produce effective collaboration between teachers (Welch 1998b). Hernandez (2013) stated that efficient administrative planning of special education does not mean that cooperation between professionals will produce sufficient collaboration because cooperation is a continuous process within education. Hernandez (2013) also stated administrators or managers of school programs



create a professional process to which all parties within the collaborative team can mutually benefit from other team members efforts and experiences.

Secondary CTE programs and special education programs often experience obstacles of collaboration because of funding and the lack of human interaction (Hernandez, 2013). Scalise (2005) reported that individuals within the field of special education are required to do more paperwork and student documentation as compared to the past because of the increased use of Medicaid funds for special education each year. Troen and Boles (2011) stated that teachers might not interact with other educational professionals because of their professional perspective or professional attitude to work independently. Hernandez (2013) reported that education should try to minimize the human instinct of autonomy within the educational workplace as much as possible in efforts to increase collaboration between teachers. Gajda and Koliba (2008) and Somech (2008) stated that teachers must professionally remove themselves from the idea of individualism and teacher remoteness or teacher collaboration will not take place.

CTE teachers and secondary special education teachers must understand that positive collaboration cannot only help student performance and program outcomes but can also help secondary teachers with professional morale. Vangrieken, Dochy, Raes, and Kyndt (2015) stated that teachers benefited from collaboration by improved school community between coworkers, experienced higher motivation, and overall increased professional morale. Teacher collaboration also benefited secondary teachers with the ever-changing environment of schools and academic processes. As schools and CTE programs evolve and change, “Different educational innovations push towards teacher collaboration; for example competence-based education” (Truijen et al., 2013, p. 36).

## **Chapter 2 Summary**

Chapter 2 presented a review of literature related to the topic of the research study. It provided information concerning the theoretical framework for the study, the inclusion of SWD in agricultural education (AGED) classrooms and laboratories, and collaboration between AGED teachers and special education teachers to enhance inclusion of SWD into AGED. Chapter 3 presented the detailed methodology used to conduct the study.

## **Chapter 3**

### **Methodology**

Chapter 3 provides a detailed discussion concerning the methodology used to conduct the study. The chapter begins with a review of the study's purpose, statement of the problem, and research questions. This review is followed by an introduction of the methodology, discussion of the research design, participants in the study, data collection procedures, and data analysis procedures. A discussion of the pilot study is also included in this chapter of the methods used to conduct this qualitative research study.

### **Purpose of the Study**

Casale-Giannola (2012) stated that little research has been produced with regards to inclusion within overall secondary CTE. Giffing and Warnick (2012) recommended future research be dedicated towards the relationship between agricultural education teachers and special education teachers to improve inclusion for SWD within secondary agricultural education programs. Kozik, Cooney, Vinciguerra, Gradel, and Black (2009) stated secondary inclusion has been failing within secondary education because of the following obstacles: advanced content, increased instructional pace, increased expectations for SWD, poor study skills for SWD, difficulties with scheduling, and increased testing. Johnson, et al. (2012) reported over 56% of secondary agricultural education teachers cited lower "opportunities" for SWD as a significant barrier to participation within secondary agricultural education programs (p.48). Johnson, et al. (2012) additionally reported "facilities" were an obstacle for inclusion in over 37% of secondary agricultural education teacher respondents. Typically, in comprehensive high schools, the special education department was located a great distance apart from the agricultural education department. Agricultural education programs are usually located in a separate location because

of its unique facility requirements and potentially distracting noise from equipment being used during classroom and laboratory instruction. This physical isolation created an unconscious barrier to departmental collaboration. In addition, special education teachers and agricultural education teachers might have different personalities or personal backgrounds that could lead to communication barriers. Andreasen, et al. (2007) suggested that agricultural education teachers needed to be prompted to contact the special education department or special education teachers to seek assistance modifying instruction for SWD. Many SWD are being “lost” within agricultural education because there is little to no communication between CTE and special education departments (Schmalzried & Harvey 2014). It is the professional obligation, and the law, that both departments work together in preparing all students for the future workforce. Therefore, the purpose of this study was to examine relationships that exist and those that must exist between agricultural education teachers and special education teachers to enhance the provision of agricultural education courses to students with disabilities.

Improving collaboration between secondary agricultural and special education teachers could potentially enhance inclusion for SWD participating within secondary agricultural education programs in southwestern Virginia. Hantzidiamantis (2011) stated collaboration has often been categorized and defined synonymously within the overall educational improvement movement instead of being held as a separate concept. Hantzidiamantis (2011) reported that the definition of collaboration throughout the educational field was ambiguous as well as a subjective. Friend and Cook (2012) defined collaboration as two or more educational stakeholders cooperating through: instruction, professional responsibilities, and educational choices to better serve a vast array of students. According to Hamilton-Jones and Vail (2014), teachers believed that overall student performance and knowledge attainment improved for all

students when teachers collaborate with one another in a positive manner. Effective collaboration occurred when teachers of different contents or positions shared resources and professional responsibilities (Hamilton-Jones & Vail, 2014, p. 83). If collaboration can be improved between secondary agricultural education teachers and secondary special education teachers, SWD within secondary agricultural education programs will receive a better education.

### **Statement of the Problem**

Research for inclusion within agricultural education and CTE has historically been dedicated towards identifying challenges of overall inclusion, improving instructional strategies, professional development, pre-service training, in-service training, teacher perceptions, and redesigning curriculum for specific courses. Schmalzried and Harvey (2014) reported, “A significant number of CTE respondents felt that little or no regular communication took place between the special education teacher and the CTE teachers” (p. 145). Secondary agricultural education teachers can include SWD, but do not possess the direction or means to collaborate with special education teachers. Therefore, the problem addressed in this study was to discover the status of collaboration between agricultural and special education teachers when including SWD within their classrooms and laboratories, as determined by agricultural education teachers and special education teachers. The study also discovered factors that motivate or inhibit collaboration, identified “strategies to overcome barriers” of collaboration, and demonstrated “indicators of effective collaboration” in efforts to increase the effectiveness and efficiency of collaboration between secondary special education and agricultural education teachers.

## **Research Questions**

The study was conducted to determine the experiences of southwestern Virginia high school agricultural education teachers and special education teachers with regards to the following research questions?

1. What is the status of collaboration between agriculture and special education teachers to enhance inclusion of students with disabilities?
2. What factors exist that either motivate or inhibit collaboration between agriculture and special education teachers with regards to enhancing the inclusion of student with disabilities in agricultural education classes and laboratories?
3. If barriers exist that inhibit collaboration between agriculture and special education teachers, what strategies might be implemented to overcome them?
4. What indicators reveal the establishment and continuation of effective collaboration between agriculture and special education teachers with regards to enhancing SWD learning in agricultural education classrooms and laboratories?

## **Research Methodology**

A qualitative, semi-structured interview, research design was used to conduct this study. Denzen and Lincoln (2005) stated that qualitative research can investigate topics or phenomena that are vast, diverse, and interrelated. Qualitative research creates interpretive meaning from people's experiences. "Qualitative research, then, is a broad approach to the study of social phenomena" (Marshall & Rossman, 2016, p. 3). Convenience sampling was used to gather participants for the interview based on specific criteria to sufficiently answer the studies' research questions. Participants of the study included secondary agricultural and special education teachers working within southwestern Virginia. Semi-structured interviews were

conducted to attain insight into participants' experiences. Due to the COVID-19 pandemic of 2020, physical face-to-face interviews were not able to take place between the researcher and the participants. The researcher used the Zoom application as a virtual platform to interview participants in efforts to ensure participant safety and researcher safety. A pilot study occurred to refine the design of the overall study. Data was compared and synthesized throughout the duration of research. Consistent research methods and research procedures were used throughout the study to ensure accuracy and reliability of results and findings. Chapter 3 discussed the methodology for this study in detail.

### **Research Design**

This study used qualitative inquiry to discover the experiences of southwestern Virginia's agricultural education teachers and special education teachers with regards to collaboration between agricultural education teachers and special education teachers to enhance the inclusion of students with disabilities in agricultural education classes and laboratories.

By using the Zoom application during the COVID-19 pandemic, semi-structured interviews will be used to collect the data. The researcher sought to build rapport and create an interview environment where participants were able to share experiences truthfully and confidentially. Brown and Danaher (2019) reported that semi-structured interviews in educational research can create a research environment that allows participants to build effective rapport and build respectful relationships between the interviewer and interviewee. The researcher sought to improve the quality of the interview based on the openness and flexibility that semi-structured interviews offer as compared to rigorous and structured interviews. An interview protocol was used to ask open-ended questions to participants.

## Participants

Secondary agricultural education teachers and special education teachers in southwestern Virginia were the participants in this study. The criteria used for selecting participants was based on educational experiences and the research questions of this study. Convenience sampling was used to identify participants that had the unique educational experiences to answer the research questions for this study. Palinkas, Horwitz, Green, Wisdom, Duan, and Hoagwood (2015) reported that purposeful or criterion sampling was useful in research areas that contains a vast amount of data to be collected as it relates to the phenomenon. Listed below are the purpose-driven criteria for selecting participants of the study:

1. Southwestern Virginia secondary agricultural education teachers in a comprehensive high school with at least three years of teaching experience and have worked with students with disabilities.
2. Southwestern Virginia secondary special education teachers in a comprehensive high school with at least three years of teaching experience.
3. Southwestern Virginia secondary special education teachers who have collaborated with agricultural education teachers.
4. Agricultural education teacher participants in this study could not work with other special education teacher participants.

Sixteen participants were recruited and interviewed. The exact total of participants was not predetermined. Sixteen participants were anticipated in order to fully answer the research questions. Interviews continued until a saturation of answers was established. The actual interview times were mutually agreed upon between the participant and the researcher prior to the interview.



## **Participant Recruitment**

Once Virginia Tech's Institutional Review Board (IRB) authorized the research, the researcher began to identify participants by contacting local school district CTE directors throughout southwestern Virginia by email to locate secondary agricultural education teachers. The researcher also began to identify participants by contacting local school district special education directors throughout southwestern Virginia by email to locate secondary special education teachers. The CTE and special education directors were asked to recommend potential research participants. Once participant suggestions were given by the school division directors, the teachers were contacted by email. Emails that were used to identify secondary agricultural education teacher participants can be found in Appendix A. Emails that were used to identify secondary special education teacher participants can be found in Appendix B. Each email included the purpose of the study, participant criteria, identity of the researcher, responsibilities of the participants, potential benefits, how to contact the researcher, and overall confidentiality of the study.

Once participants were identified, a more detailed email was sent to each participant describing the study, study objectives, procedural logistics, confidentiality, and ethical protocols to be used throughout the study. A copy of this email can be found in Appendix C. Appointments were made with each participant at a mutually agreeable interview time using the Zoom application.

## **Participant Demographics**

As previously discussed, the projected number of participants needed to answer the studies' research questions sufficiently was forecasted to be sixteen participants. Eight participants were secondary agricultural education teachers and eight participants were

secondary special education teachers. All participants had at least three years' experience as it relates to instructing and including SWD within a secondary comprehensive school in southwestern Virginia. Agricultural education teachers and special education teachers interviewed worked at different high schools throughout southwestern Virginia in efforts to increase the quality of data and to avoid interviewing co-workers. The researcher believed that participants interviewed from the same high school may result in a conflict of interest.

### **Data Collection Procedures**

#### **Interview Procedures**

There has been limited research dedicated to the experiences of agricultural education teachers and special education teachers with regards to agricultural and special education teacher collaboration to enhance inclusion of SWD into agricultural classes and laboratories. This limited research prompted the researcher to conduct qualitative, semi-structured interviews to obtain the study's data. The researcher followed an interview protocol guide but also allowed participants to share additional experiences and suggestions they felt relevant. Participants will be given the opportunity to expand beyond the scope of given interview and research questions to better capture their experiences of the phenomena. According to Galletta (2013), semi-structured interviews can yield data that specifically answers the researcher's interview questions but it additionally promotes participants to share additional experience and lead researchers to discover objectives outside the scope of the initial research questions. To attain the purest data, a document analysis was conducted throughout the study. A copy of the interview protocol can be seen in Appendix D.

The researcher used the Zoom application to interview participants and the researcher avoided interviews over the telephone to build rapport with participants. Sixteen interviews were

conducted throughout the duration of the study. All participants in the study were located in southwestern Virginia. Initially, the researcher planned to meet with all participants at their places of work unless the participant requested to meet in another location for confidentiality issues based on their professional preference. Due to the COVID-19 pandemic of 2020, physical face-to-face interviews were unable to take place between the researcher and the participants. The researcher used the Zoom application as a virtual platform to interview participants to ensure participant and researcher safety.

Before every interview conducted by the researcher, each participant was asked to read the study information sheet. The ethical procedures that were followed throughout the study were explained in detail on the study information sheet. Appendix E contains the study information sheet given to participants before the participants were interviewed. Appendix F contains the thank you letter sent to participants and Appendix G contains the follow-up letter that was sent to participants. The researcher gained verbal permission from all participants to record the semi-structured interview using the Zoom application at the beginning of the interview. The participants were instructed that the audio-recording files will be destroyed after the study was completed. It was also explained to participants that pseudonyms were used for their names and their school's names to ensure confidentiality and privacy. They were also told they will be asked to review the transcript of their interview to ensure accuracy of the script. Finally, they were promised a copy of the study results once the study is completed. Before the interviews began, participants were reminded that they did not have to respond to a given question if that was their choice. The shortest interview lasted 22 minutes while the longest interview lasted 47 minutes. The average interview lasted 34 minutes for this research study. All interviews were transcribed using the software program Microsoft Word. All data was stored on the researcher's

laptop and external hard drive in a locked office at the researcher's home. Finally, field notes were taken during the interview and immediately following the interview.

### **Document Review**

Documents and document review are essential if a researcher aims to produce an ethical and sound qualitative research study. Marshall and Rossman (2016) suggested that document analysis provides quality data about the experiences, beliefs, and values that participants have as it relates to the phenomenon. Throughout the study, the researcher continuously aligned documentation and document analysis to best answer the studies' research questions.

Documents and document analysis should have a strong connection with the research questions and the theoretical framework (Marshall & Rossman, 2016, p.165). Multiple documents, files, and records were reviewed throughout the duration of this study. Agricultural education department size, enrollment of SWD within agricultural education programs, and overall school enrollment statistics were used to gain a deeper meaning of school environments being studied.

### **Field Notes**

Field notes, along with an audio recording, was used throughout the interview process during this study. The objective of using field notes throughout the interview process was to capture the participants non-verbal cues, attitudes, and physical mannerisms to gain a deeper understanding of the phenomenon. According to Marshall and Rossman (2016), during an interview, field notes allow the researcher the ability to remember the environment and interview relationship that the researcher encountered throughout the interview to aide with data analysis in the future. Field notes can also remind a researcher of how to improve throughout the interview process. Patton (2002) suggested another beneficial use of field notes was the creation of

interview questions throughout the interview in efforts to improve the quality of the overall interview.

### **Pilot Testing**

A pilot test study was conducted prior to the official research study using the exact qualitative research procedures and methodologies as the main study. Two participants were used in the pilot study to represent the two different participant groups being researched during the main study. A secondary agricultural education teacher and a secondary special education teacher from a secondary comprehensive high school was used to increase the credibility of the research. The participant selection criteria for the pilot test study was the same participant selection criteria used for the main study. All participants within the pilot test study were active employees within a southwestern Virginia secondary comprehensive school with at least three years' experience including SWD within agricultural education courses.

Data collection procedures and methods from the pilot test study were the same as the data collection procedures and methods of the main research study. The pilot test study was also used to increase the qualitative semi-structured interview skills of the researcher. According to Marshall and Rossman (2016), pilot testing can help the researcher eliminate recording obstacles that might damage rapport between the researcher and the participant in an interview setting. Field notes and data gathered during interviews were the two modes of data collection used during the pilot test study and the main research study. The pilot study helped the researcher to record, file, and organize data for the main research study. Interview questions from the pilot study were not edited, deleted, or modified before the main research study because the researcher deemed the interview questions sufficient to fully answer the research questions. The coding

process of the data for the pilot study was the same coding process used in the main research study.

### **Data Analysis Procedures**

Data analysis procedures helped the researcher digest the data to answer the studies' qualitative research questions (Merriam & Tisdell, 2016). According to Marshall and Rossman (2016), the purpose of data analysis procedures was to organize, categorize, and to help interpretation of the large quantity of data within qualitative research. Strauss and Corbin (1997) stated that qualitative data analysis is the process of discovering common themes and creating meaning of relationships within the data. The data analysis in this study was continuous and aimed to best answer the studies' research questions.

The data analysis process began as soon as the first semi-structured interview started. The constant comparative method was used throughout the duration of this study. Marshall and Rossman (2016) defined the goal of the constant comparative method as "constructing a credible explanation that provides significant knowledge" (p.229). Data for this study was collected and analyzed until the data became saturated. Saumure and Given (2008) stated that data saturation occurs when the researcher experiences repetitive findings during data collection. The researcher in this study believed that after the sixteenth interview, little to zero additional findings were expected to surface.

The researcher did not use qualitative data analysis software or data transcribing programs for this study. However, the researcher used computer software programs to create, collect, organize, and analyze data. Microsoft Word was the computer software program used in data preparation, collection, and presentation for this research study. McLellan, MacQueen, and Neidig (2003) stated that poor data preparation of research damages the data analysis process.

Audio-recorded interviews were transcribed by the researcher by listening to each interview recording. The researcher typed each recorded interview verbatim. Microsoft Word was the computer software program to be used to transcribe the audio-recorded interviews. Afterwards, the researcher coded and categorized the interview data within Microsoft Word.

### **Coding**

The coding process started as soon as the first interview is conducted, recorded, and transcribed. Coding the interview data started the data analysis process within the research study. According to Marshall and Rossman (2016), coding is the creation of names and organizing those names as it relates the phenomena being researched. Manual coding was used over computer software coding methods so the researcher could become immersed in the data. The researcher believed that computer software coding methods would damage the data analysis for the study.

All interview manuscripts of the research study were initially analyzed and placed into specific sections of data. The type of coding used in data analysis of this research study is open coding. Marshall and Rossman (2016) described open coding as informal during the early stages of coding but the codes develop into major themes as the study progresses. After interview transcription, open coding allowed the researcher to develop data categories to help refine data analysis. The interview manuscripts were read, analyzed, and coded multiple times before categories began developed. Glaser and Strauss (1967) stated that during this stage of coding, the theoretical premises of the categories are formed. According to Merriam and Tisdell (2016), the codes are generated from the interview transcription included sections of the participants words verbatim, words of the researcher, themes deriving from related literature, and other sources found outside the context of this study.

After the open coding stage was completed in the data analysis process, the researcher began axial coding of the data. Initial codes and categories generated from open coding were then reorganized and grouped together based on similarities amongst the codes (Fielding & Lee, 1998; Strauss & Corbin, 1998). Marshall and Rossman (2016) stated that axial coding places codes together or apart based on their relationships as it pertains to other codes. According to Merriam and Tisdell (2016), after axial coding concluded, categories are refined once more into themes. The themes produced from the data analysis were used to directly address the studies' research questions. Appendix J includes the organization of codes and themes to one of the research questions as an example of the coding data analysis process used by the researcher throughout this study.

### **Trustworthiness**

The researcher sought to design and conduct research that ensures trustworthiness throughout the study. According to Marshall and Rossman (2016), "Articulating the elements of sound design for trustworthiness" was essential to conduct trustworthy qualitative research (p.44). The researcher used Casey and Murphy's (2009); Lincoln and Guba's (1985) alternative constructs to establish a research design to ensure trustworthiness throughout the study. The alternative constructs established by Casey and Murphy (2009); Lincoln and Guba (1985) are credibility, dependability, confirmability, and transferability. Additionally, trustworthiness procedures recommended by Lincoln and Guba (1985) were used by the researcher to meet trustworthiness standards (Marshall & Rossman, 2016).

***Credibility.*** The researcher participated in specific credibility procedures to ensure findings of the research study to be more credible. Qualitative credibility and validity are considered synonymous for the purposes of this study. According to Polit and Beck (2012), the definition of



credibility refers to the researcher's interpretation as well as the overall truth of the data. Member checking, constant observation throughout the duration of the research, and continuous engagement by the researcher enhanced credibility throughout this research study (Korstjens & Moser, 2018). To meet the standards of prolonged engagement the researcher will conduct research over a two month period. Additionally, the researcher increased credibility by continuously engaging in reflexivity throughout the duration of the study (Creswell & Miller, 2000). Palaganas, Sanchez, Molintas, and Caricativo (2017) stated that reflexivity has the potential to increase credibility of the research when the researcher identifies reflexivity as an essential element of the research process and its findings. Patton (2002) described reflexivity as the researcher's self-awareness and the researcher remaining cognitive to their self-perception. The goal of reflexivity within this research study is to turn the researcher's biases and emotions into tools of research (Copp, 2008; Kleinman & Copp, 1993).

To further increase credibility within the study, the researcher used member checking as a research tool (Lincoln & Guba, 1985; Maxwell, 2012). According to Marshall and Rossman (2016), member checking encompasses distributing all results and researcher interpretations of the data with all members of the studies' participants. Participants were given the option and opportunity by the researcher to review and analyze the interview transcription and all other relevant documents. The option and opportunity to provide interview transcriptions was used so that the participants could ensure accuracy of the verbatim transcriptions and the overall interpretations by the researcher. Participant interview transcription reviews and researcher interpretations were given to participants before the coding process was initiated by the researcher. The participant interview transcription review process was conducted and completed before the next steps within the research process. The data collected was not used in this

research study if participants disagree with interpretation, results, or chose not to participate in the research after reviewing verbatim transcripts.

***Dependability.*** To ensure dependability, the researcher produced a detailed account of the qualitative research methods and procedures used throughout the duration of this study.

According to Marshall and Rossman (2016), dependability is a documented research plan and strategy that demonstrates how the researcher will manage change within the study and how the researcher describes the research phenomenon in-detail. The researcher used the same research methods and procedures throughout the study to increase dependability. The research procedures were documented for participant selection, participant recruitment, data collection, and data analysis to ensure the dependability standard. Dependability was additionally addressed when the researcher used an audio-recording device for the semi-structured interviews.

Interviews were transcribed verbatim to meet the demands of dependability in a qualitative study. Coding and categorizing procedures remained constant throughout the data analysis process.

***Confirmability.*** Triangulation was the research tool to be used to ensure confirmability within this qualitative research study. Rossman and Wilson (1994) defined triangulation as using multiple and different sources or groups of data to satisfy the needs of the studies' research questions. Marshall and Rossman (2016) stated triangulation as the event of the researcher utilizing more multiple sources of data for a single concept. To address weaknesses of confirmability in the study, the research will interview two different professional educational teaching positions in a comprehensive secondary school within southwestern Virginia. The two different professional teaching positions were secondary agricultural and special education teachers. The researcher utilized multiple research methods and procedures to strengthen the

confirmability within this research study. Field notes and the audio-recording of semi-structured interviews were an example of two of the researcher's data collection methods used. By using more than one method of data collection, the researcher aimed to decrease the change of research errors (Patton, 2002).

***Transferability.*** The results derived from this study were transferrable. According to Marshall and Rossman (2016), transferability is defined as the ways in which a studies' results will be used in similar research situation or similar research questions. The degree of transferability within the results of a qualitative study depended on the individual reading the manuscript. To negate the weakness of qualitative transferability in this study, the researcher continuously referred to Ajzen's Theory of Planned Behavior (1991). More specifically, how the framework created a research guideline for the data collection and data analysis procedures (Marshall & Rossman, 2016). The researcher also displayed descriptive information about the procedures, environments, and results of the study in-detail to improve transferability for other readers (Merriam & Tisdell, 2016). The in-depth detail of the researcher sought to help future research become generalizable in similar research circumstances (Marshall & Rossman, 2016). Individuals reading the results of this study can determine for themselves if it is transferable to their own situation and environment.

### **Chapter Summary**

Chapter 3 gave a detailed overview of the qualitative research design procedures used to research collaboration barriers that exist between secondary agricultural education teachers and special education teachers in comprehensive schools. Criteria and convenience sampling methods were used for participant selection. A description of the participant recruitment procedures was addressed within this chapter. The pilot study process and procedures were also

discussed. All research procedures from the pilot study testing remained continuous throughout the duration of the main research study. The semi-structured interview method was the tool used to gather and collect data for this qualitative study. The researcher used an audio-recording device and the computer software program Microsoft Word to document research interviews. Chapter 3 also discussed data analysis for the study. The constant comparative method was used as the tool for data analysis. Open coding, axial coding, and the categorization of data was also reviewed in Chapter 3. This chapter included efforts from the researcher used to improve and ensure trustworthiness throughout the study. Creditability, transferability, dependability, and confirmability were discussed in detail (Lincoln & Guba, 1985). Chapter 4 was dedicated to the results found within this qualitative research study.

## **Chapter 4**

### **Results**

Chapter 4 opens with the purpose of the study, research questions, demographic information of participants, and an overview of the pilot study. Findings of the study are then presented, followed by a chapter summary.

#### **Purpose of the Study**

The purpose of this study was to examine relationships that exist and those that need to exist between secondary agricultural and special education teachers to enhance the provision of agricultural education courses to SWD. Therefore, the problem addressed in this study was to discover the status of agricultural and special education teacher collaboration. The study also identified factors motivating and inhibiting collaboration, as determined by agricultural and special education teachers. In addition, the study identified “strategies to overcome barriers” and determined “indicators of effective collaboration” to increase the effectiveness and efficiency of collaboration between secondary special education teachers and secondary agricultural education teachers in southwestern Virginia.

The results of the study could assist in improving collaboration between secondary agricultural and special education teachers to potentially enhance inclusion for SWD participating within secondary agricultural education programs in southwestern Virginia and therefore, result in improving the education of SWD.

#### **Research Questions**

The study was conducted to determine the experiences of southwestern Virginia high school agricultural education teachers and special education teachers with regards to the following research questions?

1. What is the status of collaboration between agriculture and special education teachers to enhance inclusion of students with disabilities?
2. What factors exist that either motivate or inhibit collaboration between agriculture and special education teachers with regards to enhancing the inclusion of student with disabilities in agricultural education classes and laboratories?
3. If barriers exist that inhibit collaboration between agriculture and special education teachers, what strategies might be implemented to overcome them?
4. What indicators reveal the establishment and continuation of effective collaboration between agriculture and special education teachers with regards to enhancing SWD learning in agricultural education classrooms and laboratories?

### **Research Methodology**

A qualitative, semi-structured interview, research design was used to collect data in order to answer the studies' research questions. The first question of the semi-structured interview was, "As an agriculture teacher/a special education teacher, how often do you work with a special education teacher/an agriculture teacher?" Probing questions were used to obtain specific details to help the researcher better understand the answer to the first question. Eight secondary agricultural education teachers and eight secondary special education teachers from 11 high schools in southwestern Virginia were interviewed. Agricultural education teachers and special education teachers did not work together in efforts to fully answer the studies research questions. Due to the COVID-19 pandemic, all semi-structured interviews were held using the Zoom video-conferencing application at a time and date chosen by the participant.

## **Participant Demographics**

Participants in this study had at least three years of secondary teaching experience with regards to teaching SWD. All participants were current teachers and were professionally endorsed in their respective fields. Participant secondary teaching experience ranged from four years to 32 years. Agriculture teachers combined to teach over 147 years and averaged over 18 years of teaching experience. Special education teachers combined to teach 90 years and averaged over 11 years of secondary teaching experience. Twelve participants were female, and four participants were male.

Provided below is a short description of the participants in this study. Pseudonyms were given to all participants to ensure participant privacy and confidentiality. These names are listed below are in alphabetical order.

“Amelia” was a secondary special education teacher with five years of teaching experience.

“Archie” was a secondary special education teacher with 17 years of teaching experience.

“Beth” was a secondary agricultural education teacher with six years of teaching experience.

“Brittany” was a secondary agricultural education teacher with 18 years of teaching experience.

“Caroline” was a secondary special education teacher with four years of teaching experience.

“Chad” was a secondary agricultural education teacher with 26 years of teaching experience.

“David” was a secondary agricultural education teacher with 25 years of teaching experience.

“Elizabeth” was a secondary agricultural education teacher with 16 years of teaching experience.

“Fancy” was a secondary special education teacher with four years of teaching experience.

“Hazel” was a secondary special education teacher with four years of teaching experience.

“Kurt” was a secondary agricultural education teacher with 32 years of teaching experience.

“Madison” was a secondary agricultural education teacher with 14 years of teaching experience.

“Melissa” was a secondary agricultural education teacher with 10 years of teaching experience.

“Mikki” was a secondary special education teacher with 30 years of teaching experience.

“Noah” was a secondary special education teacher with 16 years of teaching experience.

“Paige” was a secondary special education teacher with 10 years of teaching experience.

### **Pilot Study**

A pilot study was conducted prior to the main research study using the exact qualitative research procedures and methodologies as the main study. A secondary agricultural education teacher and a secondary special education teacher were used in the pilot study to represent the two different groups of participants being researched throughout the main study. The secondary agricultural education teacher had 16 years of teaching experience and the secondary special



education teacher had 23 years of teaching experience. Both participants shared their experiences collaborating with the other participant group with regards to including SWD within secondary agricultural education classrooms and laboratories.

The researcher deemed that the information gathered within the pilot study was satisfactory to answer the research questions of the main study. Thus, the researcher determined that no change or alteration of the interview questions and the research questions were needed. Both participants were able to provide quality responses to the interview questions throughout the pilot study. Participants from the pilot study were able to openly respond to the questions. Following the pilot study interviews, the researcher transcribed both interviews. The researcher was able to efficiently analyze the verbatim transcriptions and produce codes, categories, and themes.

### **Overview of Themes**

Secondary agricultural and special education teachers in southwestern Virginia shared their experiences with regards to collaborating with one another to include SWD within secondary agricultural education classrooms and laboratories. Both groups of participants shared personal, professional, administrative, and institutional factors as to collaborating with one another to include SWD within secondary agricultural education. Participants identified factors motivating or inhibiting collaboration, suggested strategies to overcome barriers, and demonstrated indicators of effective collaboration, and some overall changes that could potentially increase the efficiency and effectiveness of collaboration between agricultural and special education teachers.

Throughout the coding and categorization process, common themes emerged from the responses of both groups of participants. The themes that emerged from participant responses

included personal, professional, and administrative. Themes also emerged concerning how to overcome collaboration barriers to better include SWD within secondary agricultural education programs by using strategies, effective collaboration indicators, and best practices serving as these themes.

Secondary agricultural and special education teachers made collaboration decisions or sought the help of the other teacher based on their expectations of performance for the SWD, professional knowledge of secondary agricultural education, and professional knowledge of secondary special education within the overall context of secondary agricultural education. Both groups of teachers cited time constraints, work overload, experience, geography, personalities, and overall school culture with regards to inclusion as common barriers to collaboration between the two groups of secondary teachers. Participants also gave suggestions as to administrative or school division issues that limit or inhibit collaboration between agricultural and special education teachers. Strategies included but were not limited to decreasing student caseload, refining special education paperwork, scheduling issues between teachers, improving IEP meeting attendance, and establishing a school culture for teacher collaboration.

### **Research Question One: Status of Collaboration**

RQ1: What is the status of collaboration between agricultural and special education teachers to enhance inclusion of students with disabilities?

The first research question in this study investigated collaboration between secondary agricultural and special education teachers with regards to including SWD. The first research question also sought to find the frequency and methods of communication used between these teachers while collaborating with one another.

The theme that emerged relating to RQ1 was *collaboration status*. Two categories were identified that led to this theme. They were: (1) Collaboration frequency and (2) Methods of communication. Table 1 displays the codes and categories corresponding to the theme.

Table 1  
*Status of Collaboration*

Codes	Categories	Theme
Frequent collaboration Limited collaboration Collaboration depended on caseload	Collaboration frequency	Collaboration Status
Face-to-face Email Distributing or documenting SPED paperwork	Methods of communication	

### **Collaboration Status**

The overall status of collaboration between agriculture and special education teachers to enhance SWD learning can be divided into two aspects, frequency and methods of communication. Both aspects are influenced by several different factors.

#### ***Frequency***

The frequency of collaboration varied from school to school and depended on several factors. These factors included the size of the school and/or departments, the number of teachers within their respective departments, the teaching assignments given to agriculture teachers (number of different classes), the number of SWD enrolled within agriculture classes, and the caseload of special education teachers.

Some participants reported collaborating quite frequently. Melissa stated: “I am in contact with them on a weekly basis” (paragraph #20). Hazel stated she spoke with an agriculture teacher, “at least minimum three times-a-week” (paragraph #14). However, the

frequency of collaboration starts breaking down when the enrollment of SWD in agriculture classes increases. When the number of students increase the amount of time it takes to collaborate increases. Kurt said, “Just finding time... is the main constraint” (AGED, paragraph #26). Size of the school and size of each department also has an impact on the amount of collaboration that exists. It was common for smaller schools and smaller departments (regardless of the size of the school) to have less collaboration between teachers. When asked about the frequency of collaboration, David stated: “Well, honestly not a whole lot... we only have two special ed. teachers in our high school” (AGED, paragraph #18). Archie, a special education teacher at a school similar to the size of David’s school stated, “Just a couple times a year” (paragraph #28).

For both types of teachers, their teaching assignments and the number of students enrolled/assigned have a lot to do with the amount of collaboration that can be done. The number of different classes an agriculture teacher is assigned in a given semester also has an impact on collaboration. Caroline referenced agriculture teachers being overworked as a barrier. “Probably time because they are super busy... just finding the time to do what I need or give me the help that I need” (paragraph #38). For special education teachers, their caseloads (number of students for which they are responsible) has a lot to do with the amount of collaboration they can do. In most instances, special education teachers are responsible for more students than they can effectively handle. Having too many students to work with makes it difficult to effectively collaborate with AGED teachers.

## ***Methods of Communication***

Participants in the study reported several different methods used to communicate with one another. These methods included face-to-face, email, online meeting, and online technology for completing paperwork.

***Face-to-face.*** Face-to-face interaction was a common method of communication between teachers. It can occur formally or informally. Hazel liked to have formal, “face-to-face meetings about once-a-week” with the agriculture teacher (SPED, paragraph #14). Caroline stated that collaboration, “is usually face-to-face... 99 percent of the time I would say it is face-to-face” (SPED, paragraph #34). Depending on the culture of the school, face-to-face collaboration occurred in a more informal setting. Chad stated: “I go down the hall I see one of the special ed. teachers and I ask them, ‘Well, you know how come I did not see this kid today, have you heard what is going on with this kid?’” (AGED, paragraph #15). There were barriers identified that prevent the frequency of face-to-face meetings. They will be addressed in another section of this document.

***Email.*** Teachers cited email as a method of communication between teachers. Elizabeth stated: “I mean mostly it is email... we email back-and-forth” (AGED, paragraph #41). Fancy used email to schedule collaboration meetings with the agriculture teacher, “I need a meeting with her, we do everything through Google Mail now you know (SPED, paragraph #27). It was reported that communicating by email cuts can reduce the number of face-to-face meetings needed.

***Online Meetings.*** One of the outcomes of having to deal with the COVID-19 pandemic was gaining a lot of experience with the use of online meeting technology. School systems and teachers within these systems were forced to use online platforms such as Zoom and Google

Meet to deliver instruction. As a result of gaining this experience, it was reported by the participants that they are beginning to use this platform more often to conduct meetings with each other. This has cut down on the need to meet face-to-face. As pointed out by Miki, “With this Zoom stuff now it is so much easier... I had a meeting and I had everybody there” (SPED, paragraph #58). Noah stated: “You can FaceTime. You can Google Meet. All that stuff helps” (SPED, paragraph #32).

***Special Education Paperwork.*** Participants reported that one of the reasons they had to communicate with one another was to complete special education paperwork. Teachers experienced collaboration with one another by utilizing forms that document the work that is being done with SWD. Distributing, completing, obtaining signatures for these forms all fall under the category of communications. Miki, a special education teacher, communicated with the agriculture teacher when distributing and collecting special education paperwork. Miki stated: “Progress reports and things like that... not that I want to do all this paperwork, but I have to do this paperwork and I need the information from you” (SPED, paragraph #42). Noah cited communicating with the agriculture teacher when he distributed, “At-a-glances, accommodation sheets, goals, anything that requires progress monitoring” (paragraph #29). Chad stated, “Sometimes you will have a special ed. teacher that will just give you an IEP or a 504 plan and say this is their issue, have at it” (AGED, paragraph #18). They all reported that completing paperwork was very time consuming and it was sometimes difficult to catch up with one another to obtain signatures.

**Research Question Two: Factors Motivating or Inhibiting Collaboration**

RQ2: What factors exist that either motivate or inhibit collaboration between secondary agriculture and special education teachers with regards to enhancing the inclusion of student with disabilities in agricultural education classes and laboratories?

The second research question in this study investigated factors that motivate or inhibit collaboration between agriculture and special education teachers with regards to including SWD into secondary agriculture education classrooms and laboratories.

The theme that emerged relating to RQ2 was *factors that motivate or inhibit collaboration*. Four categories were identified that led to this theme. They were: (1) Motivated to collaborate when something is needed, (2) Time constraints and work overload barriers, (3) Lack of understanding barriers, and (4) Administrative or school division barriers. Table 2 displays the codes and categories corresponding to the theme.

Table 2  
*Factors That Motivate or Inhibit Collaboration*

Codes	Categories	Theme
Academic support Assessment support Behavioral support Case manager check-in	Motivated to collaborate when need something	Factors That Motivate or Inhibit Collaboration
Scheduling SPED paperwork Attending IEP meetings	Time constraints and work overload barriers	
AGED content & instruction AGED lab safety SPED knowledge Student expectations	Lack of understanding	
SPED understaffed Competition with core classes Distance	Administrative or school division barriers	

## **Motivating Factors to Collaborate**

There are several factors that motivate AGED and SPED teachers to collaborate with one another when working with SWD. These factors include obtaining assistance when addressing academic, student assessment, and student behavior issues with SWD. Another motivating for SPED teachers to collaborate is the need to conduct required periodic case manager's check-in.

### ***Academic Support***

Teachers were motivated to collaborate with one another when a SWD needed additional academic support. Elizabeth was motivated to contact the special education teacher when a SWD, "is not completing their work, or is behind, or is struggling in some way" (paragraph #42). Brittany stated: "If I have concerns about a kid, I am contacting the case manager" (paragraph #18). Special education teachers also cited academic support as a motivator to collaborate. Archie responded, "If the students are struggling academically in the class" (paragraph #34). Fancy, a special education teacher was motivated to seek the agriculture teacher when she sees a decline within academic performance. She asks, "Is there anything that I can do to encourage that student if they are not doing well in her class?" (Fancy, paragraph #30).

### ***Assessment Support***

Teachers were motivated to collaborate with one another to gain SWD assessment support. Chad stated: "I refer back to them... when it comes to testing" (AGED, paragraph #20). With regards to agricultural education assessments, it was common for special education teachers to support agriculture teachers with laboratory safety tests. David cited, "For activities like safety tests... something the kid has got to pass" (AGED, paragraph #20). Special education teachers also cited assessment support as a motivator to collaborate. Amelia stated: "I help the agriculture teacher a great deal when the kids are learning and studying for their... safety tests"



(paragraph #30). Archie said, “We try to work with that [AGED] teacher and give them strategies to help them prepare the test” (paragraph #36).

### ***Behavioral Support***

Agriculture teachers were motivated to collaborate with special education teachers when assistance was needed to solve behavioral problems. Brittany stated, “If there is a behavioral problem that that I cannot handle... That is when I typically reach-out” (AGED, paragraph #22). Melissa referenced: “Conferencing about behavior management” (AGED, paragraph #24). Madison said, “There is always behavioral issues that require urgent attention. That would be one where there is no hesitation to reach out and... modify behaviors” (Madison, paragraph #38).

### ***Case Manager Check-In***

Special education teachers were motivated to collaborate with agriculture teachers when checking-in on caseload. These teachers were responsible for supporting all students on their caseload. Paige said her goal was to, “touch base once-a-week or once-every-other-week” with agriculture teachers while checking-in on her students in agriculture courses. “If I have a student out there or a student on my caseload... I go out and talk to [the AGED teacher] about the kids that are in her class” (Fancy, paragraph #28). Miki stated: “I would work with the teachers based on... how the kids were doing” (paragraph #36). Noah said, “I still have kids on my caseload... So, I still interact with those kids and those teachers for modifications, accommodations” (paragraph #22). Special education teachers experienced more collaboration with agriculture teachers if they had higher numbers of students on their caseload enrolled within agriculture classes/labs.

## **Factors Inhibiting Collaboration**

Several factors were identified by participants that inhibit their collaboration. These factors were considered barriers for collaboration and included time constraints, work overload, academic subject priority, amount of paperwork, lack of attendance at IEP meetings, lack of understanding of each teacher's respective field, expectations related to student abilities, and administrative/school policies.

### ***Time Constraints and Work Overload***

Time constraints and work overload were identified as two of the major barriers inhibiting special education and agricultural education teachers' collaboration. Teachers in both groups have many responsibilities, which makes it difficult to consistently collaborate. The case overload of special education teachers was stated time and again as something that prevented *meaningful* collaboration. Fancy cited having, "Twenty kids on my caseload" consumed a vast amount of time (SPED, paragraph #28). In addition, pressure put on special education teachers to prioritize working with academic teachers takes away from collaborating with agriculture teachers. As pointed out by Amelia, "More time is given to core courses, and be it ag... or whatever the extra course is. They get pushed to the side and they are deemed as not important" (SPED, paragraph #32). Many times, agriculture teachers are assigned a significant number of different classes to teach each year, which requires additional time needed for developing overall curriculum, lesson plans, and conducting student assessments. In addition, serving as a FFA advisor is a very time-consuming activity for AGED teachers. Melissa, an agriculture teacher stated: "Time is the biggest limiting factor... if our schedules do not correspond as far as being able to meetup and discuss things" (paragraph #26). Kurt said, "Just finding time... is the main constraint" (AGED, paragraph #26). With the accumulation of all the responsibilities put on both

groups of teachers it made it very difficult for them to find the time to collaborate. There is simply not enough time in the day.

### ***Paperwork***

Special education teachers cited the amount of paperwork that corresponds with special education as a barrier to collaboration. These teachers indicated they had to spend hours upon end documenting SWD classroom progress, student assessment, and accommodations being made for each student. They had to document the types and numbers of meetings they scheduled and attended. They stated that many times, being able to complete the paperwork required to do it at home after school hours. Fancy stated: “The paperwork in this job will absolutely bog a person down” (paragraph #34). Miki said, “Not that I want to do all this paperwork, but I have to do this paperwork” (paragraph #42). Teachers with more students on their caseload experienced more paperwork.

### ***IEP Meeting Attendance***

Special education teachers reported the lack of IEP meeting attendance and participation by agriculture teachers as a barrier. Since only one general education teacher (could be either an academic or elective teacher) in attendance was needed to satisfy IEP meeting requirements, agriculture teachers often did not attend. Noah stated: “The most difficult part is getting them to join us for Google Meets [IEP meetings]” (paragraph #38). Paige said, “We have a few who are good about it [attending IEP meetings], but most of them prefer not to” (paragraph #40). Typically, school administrators did not communicate a need for all teachers of a given SWD to attend an IEP meeting. The law requires one teacher to attend, so that is what is expected.

### ***Lack of Understanding***

A lack of understanding for each other's fields, by both agriculture and special education teachers served as barriers to collaboration. This lack of understanding related to content, instruction, safety, and what/how to make accommodations.

***Content, Instruction, & Accommodations.*** Agriculture teachers stated that most special education teachers did not understand the nature of the content, classroom, and laboratories in agricultural education. This lack of understanding made it difficult for them to know what accommodations needed to be made for a given SWD. Brittany stated: "It is hard for them [SPED teachers] to understand what we do... So, it is hard for them to make accommodations because they really just do not know the subject matter or how we work/operate in an agriculture class" (paragraph #26). Madison said, "I think it was eye-opening... how much we [agricultural education content] reinforces biology and earth science" (Madison, paragraph #52).

On the other hand, teachers from both groups said that agriculture teachers did not have sufficient knowledge or skills regarding how to make accommodations for SWD. They felt AGED teachers needed more education/training in this area in order to be successful in the meeting the needs of SWD. As stated by Beth, she did not understand, "the lingo... what an accommodation means, and it is just assumed that I should" (AGED, paragraph #24). Miki said, "It might be harder for the ag. teachers to understand... the legal ramifications" of special education (SPED, paragraph #50).

***Lab Safety.*** Agriculture teachers cited barriers with regards to laboratory safety. Laboratory safety was a larger concern for agricultural mechanics teachers with regards to operating machines/equipment. Teachers felt if a SWD was unable to follow directions with regards to operating machines/equipment, they were at an increased risk of danger. Chad stated:

“I have to be very careful that I do not let too much inclusion take over where safety is my primary concern” (paragraph #14). Beth was concerned for the safety of a SWD in the past because, “He could not go in and operate any of the machines and was honestly scared to death of them” (paragraph #68). Common examples of machines/equipment used within agricultural mechanics labs are, but not limited to, handheld tools, welding equipment, and woodworking machines.

***Student Expectations.*** Teachers experienced barriers because different stakeholders within the school had different expectations for SWD and agriculture courses. Collaboration barriers arose because agriculture teachers felt SWD were more capable than what was expected. Agriculture teachers believed in some instances that their IEP allowed students to participate less and gave them too much time to finish assignments/projects. They believed improper accommodations supported bad habits for students with regards to learning responsibility. Beth stated: “I think sometimes we provide too many accommodations... We are giving them crutches rather than support” (paragraph #24). Brittany stated the following with regards to differences in student expectations between teachers: “I feel like special education teachers are quick to jump to the IEP... I also feel like kids are way more capable” (AGED, paragraph #28).

#### ***Administrative and School Policies/Logistics***

Participants in the study felt that certain administrative and school policies/logistics served as barriers to collaboration. These types of barriers related to understaffing, competition with core academic classes, and distance between departments.

***Understaffed.*** Agriculture teachers cited special education departments as being understaffed. Brittany bluntly stated, “Special education is understaffed” (paragraph #24). David said, “You just have to work on their schedule because they are spread so thin” (paragraph

#26). Elizabeth cited: “Resource allocation is the main limiting factor because I do not have the [special education] teachers in my classroom” (paragraph #46). Agriculture teachers felt support from and co-teaching with special education teacher was not realistic because they believed there were barely enough special education teachers to provide this support and the number of students on their caseloads only allowed them to co-teach with academic core teachers.

***Academic Core Class Priority Policy.*** Teachers cited that it was school policy for special education teachers to prioritize their support to core academic classes over agricultural classes/labs. Amelia stated: “More time is given to core courses, and be it ag... They get pushed to the side and they are deemed as not as important” (SPED, paragraph #32). Elizabeth, an agriculture teacher stated: “There are just not resources to allocate that in elective classes” (paragraph #46). David said, “You just do not have access to them whenever you want” (AGED, paragraph #28). Special education teachers were assigned to specifically teach or co-teach core classes. Agriculture teachers felt they could only reach out for support from special education teachers if it was a last resort or for dire circumstances. They did not want to bother special education teachers because they understood their priorities were dedicated to core classes and students on their caseload.

***Distance.*** Teachers mentioned distance between agriculture and special education departments as a physical barrier. The great distances between teachers made it difficult for special education teachers to distribute/process special education paperwork and meet face-to-face with agriculture teachers. Miki stated: “Core academics are in one building and ag... is in another building” (SPED, paragraph #48). Paige responded, “Distance is the biggest thing... it is hard to take the time to walk all the way over there” (SPED, paragraph #38). Noah said the distance is, “Probably a six-to-eight minute walk... You can’t get there” (SPED, paragraph 32).

An agriculture teacher experienced the same distance barrier: “We are physically in the building far away from each other” (Elizabeth, paragraph #52). Participants felt that centrally locating special education departments in the school building or on school grounds is needed in most cases.

**Research Question Three: Strategies to Overcome Barriers**

RQ3: If barriers exist that inhibit collaboration between agricultural and special education teachers, what strategies might be implemented to overcome them?

The third research question in this study investigated strategies that might overcome collaboration barriers.

The theme that emerged relating to RQ3 was *strategies to use to overcome barriers*. Four categories were identified that led to this theme. They were: (1) Communication, (2) Professional knowledge, (3) Teacher relationships, and (4) Administration. Table 3 displays the codes and categories corresponding to the theme.

Table 3  
*Strategies for Overcoming Barriers*

Codes	Categories	Theme
Open communication Adapting new communications technology	Communication	Strategies to Use to Overcome Barriers
Teacher experience Understanding AGED Understanding SPED	Professional Knowledge	
Establishing Respect Relying on expertise	Teacher Relationships	
Scheduling SPED support	Administration	

As seen from data relating to RQ2, participants did feel there were barriers that inhibit collaboration. However, they also felt there were strategies that could be used to overcome these barriers. The following narrative describe these strategies.

### **Communication**

Participants felt that good communications could go a long way in helping to overcome barriers to collaboration. They felt open communications could build trust between the two teachers and have a positive influence on enhancing learning. They also felt that the use of new technologies could be used to improve communications.

### ***Open Communication***

Teachers cited having open communication between teachers as a strategy to overcome barriers. As with many other situations in life, open and consistent communication was the key to success. With regards to enhancing collaboration between agriculture and special education teachers, this communication was important for many reasons. Participants in the study indicated that if the two teachers could meet face-to-face as frequently as possible, it could serve as a catalyst for enhancing student learning far beyond what could be imagined. In addition, establishing and maintaining frequent communication by email could also assist to enhance learning. Open communication could also help improve the lack of knowledge both teachers have about each other's fields. It could assist in meeting deadlines for submitting reports required of special education teachers. It could also help in establishing realistic expectations for SWD performance. Brittany said having a special education teacher, "Who is willing to return your email or answer your questions. That really helps a lot" when supporting SWD within her classes/labs (AGED, paragraph #30). Elizabeth stated: "Having a conversation with the student's special education teacher... and then them giving me feedback" helped communication



(AGED, paragraph #52). Noah stated when he communicates with agriculture teachers he tries to be, “As open as I can be. As transparent about my goals and objectives... it much more positive experience” (paragraph #42).

### ***Adapting New Technologies***

In addition, participants felt that capitalizing on the use of new communications technology could solve many of the barriers to collaboration. The new technologies identified included, Zoom, Google Meet, FaceTime, and DocuSign. With the existence of Zoom and Google Meet having all of a SWD’s teachers attend IEP meetings can now become a reality. Even though their still may be scheduling problems, having these technologies could make it easier to have more than one IEP meeting in order to include all teachers of a given SWD. Even parents could attend the meeting(s) by Zoom. In addition to Zoom and Google Meet, FaceTime can now make it so much easier for the two teachers to meet on a more frequent basis. Finally, an overwhelming time barrier for both special education teachers is hunting down signatures for various required forms. With the advent of DocuSign, this problem could all but be eliminated. Miki stated the following when conducting IEP meetings: “With this Zoom stuff now it is so much easier... I had a meeting and I had everybody there” (SPED, paragraph #58). Noah said, “You can FaceTime. You can Google Meet. All that stuff helps” (SPED, paragraph #32). Chad, an agriculture teacher, and a real estate agent suggested the following technology as a strategy to improve the collection of signatures for special education paperwork. “We use DocuSign to get signatures. I think if we could use DocuSign here in school-. That could save us [teachers] a lot of time with special ed. paperwork” (paragraph #58).

## **Professional Knowledge**

Participants in the study believed that, overall, both teachers needed to be more knowledgeable of the other person's field. Agriculture teachers needed to be more knowledgeable about how to accommodate students with special needs and special education teachers needed to have a better understanding of agricultural education content. They also felt that actual experience in working with SWD can help a teacher gain more knowledge in how to do so.

### ***Understanding Agricultural Education***

It was felt that most special education teachers did not have a solid understanding. They felt that this lack of knowledge served as a barrier for effective collaboration and that improving their knowledge could serve as a strategy for overcoming this barrier. According to the participants, special education teachers often did not understand what was being taught in AGED, that academic standards of learning were integrated into the curriculum, and the curriculum is competency-based. Archie admits that she does, "Not have a really good understanding of what they do in the ag. department. It would help me if I had a summary of what they cover" (SPED, paragraph #32). Noah stated: "I really am not that familiar with" agricultural education content (SPED, paragraph #40). When Madison was asked, "What gets in the way when working with a special education teacher?" She replied: "Content" (AGED, paragraph#50). Madison explained that special education teachers did not understand that biology and botany was embedded within the horticulture content of her class/lab.

### ***Understanding Special Education***

Participants indicated that agricultural education teachers lacked basic knowledge of how to accommodate students with special needs and that this lack of knowledge inhibited

collaboration. They felt AGED teachers did not understand the terms/language related to special education, which made it difficult to understand/implement accommodations, read IEP's, and communicate with special education teachers. Becoming more knowledgeable in these areas could serve as a strategy for overcoming this barrier.

As an agriculture teacher, Beth stated: "I felt like I was uneducated... Because especially if you are a career-switcher, then you are coming from T&I (trade and industry) and you do not have any background on working with students in special education" (paragraph #60). Caroline responded that some agriculture teachers are, "Afraid of the special needs population. Number one, they have no idea what to do" (SPED, paragraph #48). Miki stated: "The lack of understanding that they might have about the importance" of special education responsibilities was a barrier between teachers (SPED, paragraph#56).

### ***Teacher Experience***

As expressed by the participants, actual experience in working with student with disabilities can go a long way in overcoming barriers to collaboration. Teachers with experience supporting SWD were more able to work with other teachers, communicate class/lab expectations to students, understand teacher roles/responsibilities, and better support a wide variety of disabilities. Madison stated: "Experience helps a lot... I think that has to be the most helpful thing" (AGED, paragraph #54). Kurt said, "Just experience... experience trying to work with them" (AGED, paragraph #32). Miki stated the following with what has helped her during collaboration, "I think my experience over the years... just working with people" (SPED, paragraph #62).

## **Teacher Relationships**

Participants felt strongly that the relationship they established with each other is very important. Poor relationships can inhibit collaboration, whereas a positive relationship can enhance it. Two areas of importance for building positive relationships are establishing respect and relying on each other's expertise.

### ***Establishing Professional Relationships with Respect***

Teachers felt that providing respect for one another and accepting one another as a professional can lead to enhancing collaboration. Establishing respect can make it easier to approach colleagues. Miki cited respect as a key aspect in professional relationships. "I think they respect me... respect the fact of what we have to do and they are trying to be more helpful" (SPED, paragraph #62). Melissa stated: "If you develop some sort of relationship with [special education teachers], I think that you are going to have a better outcome in your classroom with those students" (AGED, paragraph #32). Madison said, "Knowing the teachers also helps. Having a relationship with them can definitely help with momentum and productivity" (AGED, paragraph #54).

### ***Relying on Expertise***

Participants indicated that in order to build positive relationships it helps for each of them to rely on the other's expertise. Relying on each other to bring to the table their respective expertise establishes a team approach to collaboration. Relying on one another builds respect and trust, which help build positive relationships. Madison stated: "You try to find an appropriate threshold on how to modify assignments... I try to pick peoples brains" (AGED, paragraph #60). Chad has experienced that special education teachers, "Allow you to see, see things through the other kid's eyes" (AGED, paragraph #34). Elizabeth said simply, "Having normal conversations

about the capabilities of the student and what helps them best” was a great strategy (AGED, paragraph #52).

### **Administration**

As previously stated, participants in the study felt that certain administrative and school policies/logistics served as barriers to collaboration. Two areas of concern were scheduling and special education support.

### ***Scheduling***

Teachers believed that administrators and school divisions could improve collaboration by specifically scheduling time to plan. Both sets of teachers have full course loads to teach and planning periods are absorbed by student supervision, other job responsibilities, or meetings. Establishing time for collaboration would be very helpful to enhance collaboration. Paige stated: “Just giving us some common time” (SPED, paragraph #46). Melissa wanted to, “Have access to the special education teacher” (AGED, paragraph #44). Kurt stated that teachers only needed time “once-a-week” (AGED, paragraph #36). Archie suggested scheduling, “Special ed. teachers with the same teachers... That builds and understanding of the curriculums” (SPED, paragraph #32).

### ***Special Education Support***

Teachers cited greater administrative and/or school division support of special education as a strategy to overcome barriers. Teachers believed that administration/school divisions make it possible for *all* teachers to attend IEP meetings. Teachers also wanted increased flexibility for new ideas/approaches to support students and for administrators to be more approachable for special education matters. Caroline stated: “Support, you know when you come to them with an idea to listen and give you a chance” (SPED, paragraph #50). Chad said having a division

that, “Is very particular on making sure that we make the IEP meetings” promotes collaboration (AGED, paragraph #36). Having administration that understands special education helps teachers. Miki stated: “Our new admin and one of our assistant principals are both special ed... They understand what we are doing” (SPED, paragraph #66).

**Research Question Four: Indicators of Effective Collaboration**

RQ4: What indicators reveal the establishment and continuation of effective collaboration between agriculture and special education teachers with regards to enhancing SWD learning in agricultural education classrooms and laboratories?

The fourth research question in this study sought to identify indicators that reveal the establishment and continuation of effective collaboration. In other words, what can be observed to determine if this collaboration exists and is working effectively?

The theme that emerged relating to RQ4 was *effective collaboration indicators*. Two categories were identified that led to this theme. They were: (1) Teacher and administrator responsibilities and (2) student outcomes. Table 4 displays the codes and categories corresponding to the theme.

Table 4  
*Effective Collaboration Indicators*

Codes	Categories	Theme
Feeling of responsibility Commit to collaboration Established support for collaboration Continued collaboration	Teacher and Administrator Responsibilities	Effective Collaboration Indicators
Improved academic performance Improved student behavior	Student Outcomes	

## **Effective Collaboration Indicators**

After examining and analyzing the data, the researcher determined there are observable indicators that reveal whether effective collaboration between agricultural and special education teachers exists in a given school system. These indicators fall into two categories. They are teacher/administrator responsibilities and student outcomes.

### ***Teacher/Administrator Responsibilities***

The first indicator to determine if effective collaboration exists in a given school was that of ownership in the responsibility to do so. Administrators, agricultural education teachers, and special education teachers must all have a strong ownership in and commitment to their respective responsibilities to collaborate. Both teachers have many, many duties and as previously stated, barriers exist that can inhibit collaboration. If a strong feeling of ownership and commitment did not exist, it would almost be impossible to establish and maintain effective collaboration. The actual establishment of and maintaining frequent collaboration throughout the school year is also an indicator of the existence of effective collaboration. In addition, another indicator of effective collaboration was both parties taking the responsibility to initiate the collaboration. When both parties demonstrate initiative, it shows their commitment to one another to collaborate and establishes trust.

Finally, observable and measurable support from administrators to allow for effective collaboration must also be present to indicate its existence. Examples of such support should include, but not be limited to, communicating the importance of collaboration with their staff, providing time for collaboration, meeting with teachers to determine strategies for enhancing collaboration, and providing incentives for collaboration. Melissa needed administration to implement, “time set aside that you can guarantee your teachers have access to special education

teachers” (AGED, paragraph #44). Hazel stated, “[Collaboration] should be an expectation that is set by administration. I think that a clear understanding of everyone’s roles and responsibilities is important” when communicating the importance of collaboration (SPED, paragraph #40). Elizabeth said administrators could start incentivizing collaboration by, “Encouraging it in meetings... encouraging collaboration” (AGED, paragraph #56).

### ***Student Outcomes***

The second indicator to determine if effective collaboration exists in a given school system was that of student outcomes. These outcomes can come in the forms of classroom academic and classroom behavior. Many times, when agricultural and special education teachers establish and maintain effective collaboration the expectations of SWD performance and behavior increases. Increase in expectations requires establishing strategies to assist SWD to meet these expectations. Providing this support to students help them to meet the expectations. Brittany stated: “If a kid is more successful... then we are probably doing something right” (AGED, paragraph #36). Beth cited: “If you are seeing the results in the student, you know your collaboration was successful” (AGED, paragraph #50). David responded, “When that kid goes out and excels, and gets their diploma, or gets credentials... that is what we point to” when asked what indicates an effective collaboration (AGED, paragraph #46).

### **Summary**

Chapter Four presented the results of the study. Four themes emerged from the analysis of the data. These themes included: 1) status of collaboration, 2) factors exist that either motivate or inhibit collaboration, 3) strategies to overcome barriers, 4) and effective collaboration indicators. Overall, collaboration between agricultural and special education teachers did exist. The frequency of collaboration depended on many factors. In most schools



the frequency was limited due to a number of barriers. Examples of these barriers included, but were not limited to, lack of knowledge of each teacher regarding the other teacher's discipline, case overload for special education teachers, lack of time provided for collaboration, and the physical distance between the agricultural and special education departments. Examples for overcoming the barriers included, but were not limited to, enhanced communication via technology (i.e. Zoom, Google Meet, FaceTime, DocuSign, etc.), creative scheduling to allow for collaboration, and provision of professional development to enhance the knowledge of each teacher regarding the discipline of the other teacher. Examples of effective collaboration indicators included, having ownership in collaboration and making a commitment to do so, having administrative support to collaborate, appropriate student classroom behavior, and increased student academic performance.

## **Chapter 5**

### **Results and Conclusion Discussion**

Chapter 5 begins with a summary of the study, statement of the problem, review of study, research questions, and a summary of the research methodology. The remainder of the chapter provides conclusions based on the results of the study, a discussion of results, recommendations for practice, recommendations for future research, and ends with final remarks.

#### **Summary of the Study**

The purpose of this study was to examine the status of collaboration between secondary southwestern Virginia agricultural education teachers and secondary special education teachers to enhance inclusion of SWD within agricultural education classrooms/laboratories. The study also identified factors motivating or inhibiting collaboration between two groups of teachers, strategies for overcoming these barriers, and indicators of effective collaboration that exist to illustrate excellent collaboration.

#### **Statement of the Problem**

Research for inclusion within secondary agricultural education is historically dedicated towards identifying challenges of overall inclusion, improving instructional strategies, professional development, pre-service training, in-service training, teacher perceptions, and redesigning curriculum for specific courses. Schmalzried and Harvey (2014) reported, “A significant number of CTE respondents felt that little or no regular communication took place between the special education teacher and the CTE teachers” (p. 145). Secondary agricultural education teachers can include SWD, but do not possess the direction or means to collaborate with special education departments. Therefore, the problem addressed in this study was to examine the status of secondary agricultural and special education teacher collaboration to

enhance the inclusion of SWD within agricultural education classrooms and laboratories. The study also identified factors motivating or inhibiting collaboration, strategies for overcoming these barriers, and demonstrated indicators of effective collaboration that exist to illustrate excellent collaboration between secondary special education and agricultural education teachers.

### **Research Questions**

The study was conducted to determine the experiences of southwestern Virginia high school agricultural education teachers and special education teachers with regards to the following research questions?

1. What is the status of collaboration between agriculture and special education teachers to enhance inclusion of students with disabilities?
2. What factors exist that either motivate or inhibit collaboration between agriculture and special education teachers with regards to enhancing the inclusion of student with disabilities in agricultural education classes and laboratories?
3. If barriers exist that inhibit collaboration between agriculture and special education teachers, what strategies might be implemented to overcome them?
4. What indicators reveal the establishment and continuation of effective collaboration between agriculture and special education teachers with regards to enhancing SWD learning in agricultural education classrooms and laboratories?

### **Research Methodology**

A qualitative, semi-structured interview, research design was used to conduct this study. Denzen and Lincoln (2005) stated that qualitative research can investigate topics or phenomena that are vast, diverse, and interrelated. Qualitative research creates interpretive meaning from peoples experiences. “Qualitative research, then, is a broad approach to the study of social

phenomena” (Marshall & Rossman, 2016, p. 3). Convenience sampling was used to gather participants for the interview based on specific criteria to sufficiently answer the studies’ research questions. Participants of the study included secondary agricultural and special education teachers working in southwestern Virginia. The interviews were conducted to attain insight into participants’ experiences. Due to the COVID-19 pandemic of 2020, physical face-to-face interviews were not able to take place between the researcher and participants. The researcher used the Zoom application as a virtual platform to interview participants in efforts to ensure participant and researcher safety. A pilot study was conducted to refine the organization and the design of the study. Data was compared and synthesized throughout the duration of research. Consistent methods and procedures were used to ensure accuracy and reliability of results and findings.

### **Key Results**

Key results of the study include the following:

1. Agriculture and special education teacher collaboration ranged from frequently to a limited basis to include SWD within secondary agricultural education classrooms and laboratories.
2. Agriculture and special education teachers collaborated to include SWD through the following types of communication settings: face-to-face, over the telephone, and documentation/processing of IEP paperwork.
3. Agriculture and special education teachers were motivated to collaborate when a need arose relating to SWD academic work, student assessment, and behavioral problems.

4. Agriculture and special education teachers cited “years of teaching experience” as a large factor to efficiently and effectively collaborate with one another to enhance SWD learning within secondary agricultural education classes/labs.
5. Agriculture teachers stated that secondary special education teachers are “understaffed” and “overworked” in order to collaborate with the agricultural education teacher for the purposes of enhancing SWD learning in secondary agricultural education classes/labs.
6. The frequency of collaboration between agriculture and special education teachers depends on the special education teacher’s student caseload. In most cases, the caseload was too high for meaningful collaboration and therefore inhibited collaboration.
7. Special education teachers cited the “lack of understanding” with regards to agricultural education content, instructional methodology, and safety as barriers to include SWD into secondary agricultural education classrooms and laboratories.
8. Agriculture teachers cited the “lack of understanding” with regards to overall secondary special education accommodations, modifications, legal requirements, and special education language as barriers to including SWD into secondary agricultural education.
9. Special education teachers cited gathering of special education IEP paperwork and obtaining SWD academic information from secondary agricultural education teachers as a barrier to teacher collaboration while including SWD.

10. Agriculture teachers and special education teachers cited “scheduling” with regards to teacher planning periods as a barrier for collaboration between each other.
11. Having different expectations for SWD between agriculture teachers and special education teachers with regards to academic, assessment, and behavioral performance served as a barrier to teacher collaboration.
12. Agriculture teachers and special education teachers stated the physical distance between agricultural education departments and special education departments as a barrier with to teacher collaboration.
13. Agriculture teachers and special education teachers cited improved academic performance, skill attainment, behavioral performance, certification attainment, and completion towards graduation requirements as indicators for effective teacher collaboration.
14. Agriculture teachers and special education teachers cited “relying on the other teacher’s expertise” and “understanding teacher roles and responsibilities” as a best practice for efficient and effective teacher collaboration.
15. Participants stated that positive, professional relationships was a best practice for efficient and effective teacher collaboration.
16. Agriculture teachers and special education teachers believed that maintaining “open” lines of communication for other secondary teachers was a best practice for efficient and effective teacher collaboration.

17. Participants suggested school administration and school divisions allocate time specifically for teacher collaboration to better include SWD into secondary agricultural education classrooms and laboratories.
18. Participants suggested school administration and school divisions encourage, support, and become flexible with regards to teacher collaboration.

### **Conclusions**

Based on the results of this study, the following conclusions were made.

1. Agriculture teachers need to be self-motivated and committed to seek the expertise of special education teachers with regards to professional knowledge, support, and assistance.
2. Special education teachers need to be self-motivated and committed to seek the expertise of agricultural education teachers with regards to professional knowledge, support, and assistance.
3. The frequency of collaboration between the agriculture and the special education teacher depends on the amount of SWD enrolled in their secondary agricultural education classrooms and laboratories.
4. The frequency of collaboration between the agriculture and the special education teacher depends on the special education teacher student caseload.
5. Special education teachers often have too many students on their special education caseload and are often understaffed at their respective schools.
6. Special education teachers are often unavailable for agriculture teachers and agricultural education courses because secondary special education teachers are assigned to co-teach core classes.

7. Agriculture and special education teachers could co-teach courses for more efficient teacher collaboration and to better include SWD within secondary agricultural education.
8. Agriculture and special education teachers need to discuss student expectations, goals, accommodations, and share IEP paperwork for SWD within secondary agricultural education before the start of the academic year.
9. Face-to-face teacher collaboration was more effective and efficient than teacher collaboration through email, telephone, or videoconferencing software.
10. It is essential that agriculture teachers attend IEP meetings and submit special education paperwork/information for efficient and effective teacher collaboration.
11. Agriculture teachers that do not have formal secondary special education professional development training will not be prepared to collaborate with special education teachers or be prepared to include SWD into agricultural education classrooms and laboratories.
12. Agriculture teachers need to be self-motivated to contact the special education teachers as soon as they have an issue or a question to better include a SWD. Teachers that are proactive rather than reactive see better results in SWD performance and teacher collaboration.
13. Special education teachers need to be self-motivated to contact agriculture teachers as soon as they have an issue or a question to enhance learning for SWD within agricultural education classrooms and laboratories.



14. Special education teachers with little knowledge or experience with overall secondary agricultural education will struggle to make appropriate accommodations and modifications for SWD in secondary agricultural education.
15. Special education and agriculture teachers should have the same academic expectations for SWD within secondary agricultural education classrooms and laboratories.
16. Administrators and school divisions should schedule time throughout the academic year for agriculture teachers to collaborate with special education teachers to improve teacher collaboration and to better include SWD.
17. Administrators and school divisions should provide professional development training for agriculture teachers to gain adequate knowledge of overall special education, accommodations, legal requirements, and special education language to better include SWD. Agriculture teachers with a provisional license or no formal special education training should be encouraged to enroll into professional development training dedicated to secondary special education.
18. Administrators and school divisions should clearly define expectations of teacher collaboration with regards to secondary special education and including SWD.
19. Administrators and school divisions should clearly define inclusion, expectations to support SWD, and overall secondary special education departments within their respective districts.
20. Improved student academic performance and improved student behavior serves as indicators to effective teacher collaboration.

21. Continuous communication and the opportunity to collaborate in the future serves as indicators to effective teacher collaboration.

### **Discussion of Results and Conclusions**

Below and on the following pages is a discussion of the results found and conclusions made in this study. The discussion is organized as follows: 1) status of collaboration, 2) barriers to collaboration, 3) overcoming barriers to collaboration, and 4) the theoretical framework underpinning this study.

#### **Status of Collaboration**

Agriculture teachers and special education teachers were asked, “How often do you work with,” and “To what extent do you work with,” the other group of teacher respondents throughout the school year? All participants responded they had experienced collaboration with the other respondent group. The frequency, environment, and quality of collaboration varied from teacher-to-teacher and school-to-school.

Nearly all respondents from both participant groups mentioned collaboration occurring during IEP meetings and processing special education paperwork/information for students with special needs. Participants also cited they initiated collaboration throughout the year when and if a student was struggling academically or behaviorally. One agriculture teacher mentioned reporting positive news back to the special education teacher. Teachers also referenced informal situations of collaboration on a day-to-day basis or month-to-month basis by running into the other teacher randomly. Teacher collaboration, at least within the context of the agriculture teacher and the special education teacher, is not necessarily a requirement but it does occur frequently in some shape, form, or fashion.

IEP meetings occur for students with special needs at a minimum of once per year in order for the student to maintain eligibility for special education services and accommodations. Students will have additional IEP addendum meetings if they change special education services or accommodations throughout the year. Individualized Education Plan addendum meetings are not as common as the annual special education eligibility meetings but they are becoming more common. By law, the student, the parent, the special education teacher, the student's administrator, and *any* one general education teacher can be used to satisfy the requirements to hold the annual IEP eligibility or addendum meeting. Per state requirements, the agriculture teacher may or may not have to attend the meeting if another general education teacher was willing to attend. Many participants throughout the interview process cited frequent IEP meeting attendance. Others attended only if it was asked of requested of them and was a last resort to satisfy the annual meeting requirements from the state. The size of the school, teacher expectations from administration, and division culture with regards to inclusion were all factors in the frequency of attendance by agriculture teachers in these annual IEP eligibility meetings. Within this study, the smaller the school and school division, the less likely it was to have an agriculture teacher present within IEP meetings. It was more difficult, in comparison to larger schools, to gather multiple general education teachers for one meeting because there were less teachers available at smaller schools. In smaller schools, there are less teachers to cover classes.

According to participants, a common and popular time for agriculture and special education teacher collaboration occurred during the first teacher workdays in August before students began their academic year. This makes sense for both parties because both teacher respondents will likely teach or co-teach 3 to 4 sections of a course or 3 to 4 separate courses when student's academic year begins and they are busy during their one planning period. They

are less likely to have time available once the school year begins. Special education teachers are able to distribute the required documents and obtain signatures from agriculture teachers that the IEP information was distributed. The IEP information is usually in the form of an “IEP-at-a-glance” and introduces the SWD to the agriculture teacher and all other general education teachers. An “IEP-at-a-glance” is a condensed form of the official IEP that is easier to read by highlighting the main aspects of the student’s strengths, interests, and information with regards to their disability.

Teacher collaboration occurring before the school year was beneficial for agriculture and special education teachers because they had the opportunity to meet each other or at the least touch base at a minimum of once per year. Collaboration before the students arrived added a sense of personal accountability and professional responsibility between teachers. This collaboration at the beginning of the year hopefully promotes future communication between teachers if and when the need arises. Adding accountability and responsibility also mirrors the literature with regards to collaboration. According to Cook and Friend (2010), collaboration members must trust other members and the trust should increase throughout the collaboration process. The initial meeting before the academic year begins has the potential to also damper collaboration between the two teachers and paint the SWD in a “negative light” if not introduced correctly. If the special education teacher paints a negative picture of the SWD, it could cause a negative perception of the student for the agriculture teacher before they enter the class. Personality differences and negative past experiences between teachers could also make for an awkward meeting at the beginning of the year and decrease the chance of teachers reaching out to support one another. Based on the data collected in this study, negative situations of teacher collaboration at the beginning of the year were extremely rare.

Overall, the status of collaboration between agriculture teachers and special education teachers while including SWD within agriculture classrooms and laboratories was frequent and often occurs in an informal setting as compared to formal IEP eligibility and addendum meetings. Outside the required annual special education eligibility meetings and the distribution of IEP paperwork, teachers would initiate contact when they felt like they needed support. Both groups of respondents stated initiating collaboration with the other group of teachers through email, phone, and in-person. Based on responses, face-to-face or in-person collaboration was favorable between teachers because the information discussed between respondents was usually sensitive and confidential. The COVID-19 pandemic has pushed teachers to collaborate using email and telephone in efforts to social distance from co-workers. Agriculture teachers usually contact special education teachers when an issue arises in class. Kurt, a veteran agriculture teacher, suggested agriculture teachers are forced to initiate collaboration as a response, “To deficiencies that we are seeing that come up during the class” (Kurt, paragraph #17) due to the lack of time. There was simply not enough time in the day, other than meeting before the school year begins, for agriculture and special education teachers to become “proactive” in efforts to improve learning for SWD within agricultural classes/labs. It was common for agriculture teachers and special education teachers to collaborate with one another before and after their “contracted” school hours to better include SWD within agriculture education classes. The teachers were willing to sacrifice their time “off of the clock” to help a student out. During the COVID-19 pandemic, schools are closed on Wednesdays for sanitation and cleaning purposes. Agriculture and special education teachers mentioned they have been able to better collaborate with one another with this current schedule. They also mentioned that they dreaded transitioning

back to a traditional schedule because they would have less time to collaborate with teachers. Barriers to collaboration is discussed in the next section.

### **Barriers to Collaboration**

Agriculture teachers and special education teachers were asked, “What gets in the way with,” and “What makes the experience or experiences negative,” when working with the other group of teacher respondents throughout the school year? As compared to responses of other interview questions, it was common for long pauses before participants responded. This was a difficult question for both groups of participants because there was a shared mutual respect between agriculture and special education teachers. Agriculture and special education teachers shared similar thoughts on barriers to collaboration with regards to time constraints, scheduling, and department location within the school. Responses also varied between the two groups of participants. Differences between the two groups of teachers began to materialize due to different sets of content knowledge, educational training, work responsibilities, school priorities, teaching experiences, and student expectations.

### ***Time Constraints***

Both groups of respondents cited time constraints as a barrier to teacher collaboration when including SWD within agricultural education class/labs. Special education teachers typically co-taught multiple academic sections of one content or taught multiple academic contents throughout the day with one designated planning period. The planning period for a majority of the special education teachers was consumed by student supervision in some capacity, especially if their planning time aligned with school lunches. Additionally, special education teachers were responsible for their “caseload” of students with special needs. Based on responses, teachers had 10 to 20 students and each of these students were enrolled in four or

five separate classes. Special education teachers are also responsible to oversee all of their student's grades and behaviors in addition to their teaching responsibilities. This means checking-in with four to five teachers multiple times per year for one student. Hazel, a special education teacher, shared a recent experience where she missed a meeting with the agriculture teacher due to a student on her caseload having a bathroom accident that required her immediate attention. Even though it was not her fault, she felt guilty for missing the meeting and was concerned that the absence reflected poorly on her professionally. As mentioned above, this means at the bare minimum special education teachers must coordinate 10 to 20 annual IEP eligibility meetings per year. The 10 to 20 eligibility meetings will not include any additional IEP addendum meetings due to changes in a student's special education services or accommodations. Due to the COVID-19 pandemic, an addendum meeting was required if a student changed from remote or virtual learning to in-person learning. Thus, teachers referenced significant increases in IEP addendum meetings since the beginning pandemic. Students with special needs often started school virtually or online but often transited back to in-person attendance after struggling with online learning during the first quarter. Other than teaching a full load of courses and organizing IEP meetings, special education teachers also have the responsibility to assess students on their caseloads for diploma status and credit attainment such as the Standards of Learning (SOL) and Virginia Alternate Assessment Programs (VAAP). Agriculture teachers understand that special education teachers have a full plate, but they can be just as busy as special education teachers with a different set of professional responsibilities.

Agriculture teachers also have time constraints for teacher collaboration to enhance learning for SWD within class/labs. As mentioned above, agriculture teachers on average teach three to four separate agricultural subjects with students of all grade levels and abilities. Many

agriculture teachers additionally teach sections of their classes dual enrolled with the local community college. This causes dual enrollment agriculture teachers to teach students of two different academic levels/requirements at the same. Dual enrollment agriculture teachers are also obligated to report academic performances and attendance records to both, their high school and the community college at which there is a dual enrollment agreement. Secondary agricultural education classes also encompass a lab component which adds more lesson planning. Teachers are responsible for ordering laboratory supplies, preparing student projects, maintaining equipment, maintaining animals, maintaining plants, maintaining safety protocols, and organizing the lab. All of the classroom and lab preparations and responsibilities of the agriculture teacher and are typically expected to be handled during the teacher's one planning period.

Other than the traditional classroom and laboratory responsibilities, time constraints increase for agriculture teachers when they oversee their co-curricular professional student organization, FFA, properly. This organization has an abundant presence within southwestern Virginia and the FFA is one of the largest Career and Technical Education organizations within the United States. Agriculture teachers are responsible for integrating FFA activities into their curriculum, membership recruitment, program fundraising, student registration for conferences, FFA competitions, competition preparation, and transportation to-and-from events. Active FFA chapters within southwestern Virginia participate in at least five FFA competitions. Other than FFA competitions, students and advisors attend FFA events, conferences, or state/national conventions. The spring semester is the busiest time for the FFA but competitions/events are held year around. If FFA programs lack funding, fundraising efforts consume a great amount of time for agriculture teachers. In addition to all of the above, some agricultural education



programs utilize labs, school farms, and/or greenhouses, which in itself is very time consuming. The combination of delivering agricultural education content, utilizing laboratories, greenhouses, school farms, and integrating FFA creates extreme time constraints for agricultural education teachers. Furthermore, both groups of respondents mentioned the lack of understanding with regards to the other teacher's overall content and responsibilities as a barrier to teacher collaboration. This lack of understanding is discussed in the next section.

### ***Lack of Understanding***

Collaboration barriers between agriculture teachers and special education teachers was caused due to a lack of knowledge and understanding for the other respondent's field. Special education teachers mentioned agriculture teachers struggled with regards to understanding special education accommodations, modifications, services, and language. According to Hoerst & Whittington (2009), agriculture teachers needed more information and knowledge of inclusive classrooms. Agriculture teachers trained through a traditional teacher preparation program are required to only take a single course dedicated to overall special education and including SWD. Within one semester, this special education course is responsible to introduce special education terminology, cover knowledge with regards to disabilities, how to make accommodations for a variety of disabilities, and inform pre-service education students of the legal requirements related to working with SWD. The special education course gives future agriculture education teachers a starting point, but typically does not cover creating accommodations, adapting curriculum specifically for SWD within agricultural education classes/labs, or how to contribute during IEP meetings. One class is not enough exposure to prepare an individual for the amount of SWD enrolled within agricultural education classes of today. If knowledge and skills associated with including SWD in agriculture class/labs during the pre-service teacher education experience,

incoming agriculture teachers will be forced to learn on-the-job. Teachers entering the field from industry are likely to have no experience with special education accommodations, modifications, services, and language.

Stair et al. (2010) reported the need for increased realistic in-service training opportunities for reading IEP's for secondary agriculture educators. They need the opportunity to attend, be supported, and given incentives by their schools/school divisions to attend professional development training for instructing SWD. The repercussions for secondary agricultural education are great if schools/school divisions are not prepared to instruct SWD within agricultural education. According to Pense (2009), secondary AGED programs may be in jeopardy of legal lawsuits if classrooms are not properly resourced and restructured to provide accommodations and modifications for SWD. The special education case manager could potentially be in professional jeopardy of legal ramifications if the worst were to occur within agriculture classes/labs.

As reported by the AGED teacher participants, there is a general lack of understanding among most special education teachers regarding overall agricultural education content knowledge and program components. More specifically, accommodations and/or modifications developed in most IEP meetings for SWD taking agricultural education are typically inadequate. The biggest concern from agriculture teachers was agriculture laboratory safety when including students with special needs. Agriculture teachers were extremely concerned when instructing SWD with behavioral issues in the agriculture shop. Mirroring the related literature, Aschenbrener et al. (2010) stated that an agricultural education teacher's largest obstacle when instructing SWD was when the student has behavior issues along with their disability. Agriculture teachers understand the dangers of the equipment and the importance of following

direction in lab environments. Special education teachers have likely not been exposed to equipment and the dangers of the equipment. Agriculture teachers are required to take a mechanics and lab safety course while they are in the teacher preparation program. In addition, while student teaching, they gain experience teaching in a lab setting with an experienced agriculture teacher. Special education teachers will likely not have any of the above-mentioned experiences with lab equipment, safety, and lab/safety instruction. It is unfair for special education teachers or student case managers to be expected to make accommodations for a laboratory instructional setting without collaboration with agriculture teachers. The need to include AGED teachers in IEP meetings for all SWD taking their classes is paramount. However, lack of time and resources often prevent this from happening.

According to respondents, another major barrier to teacher collaboration was the lack of understanding with regards to student expectations or performances within agriculture courses. If special education teachers do not understand agricultural education, they cannot fully understand or assess student performance in relation to the student's goals, accommodations, or services within agriculture classes/labs. Special education teachers or case managers created their academic and behavioral student expectations by how the student has fared in traditional academic courses. Agriculture education allows SWD a space to demonstrate a different set of talents, skills, and abilities that they might not have been able to perform in past traditional academic courses.

According to agriculture teacher respondents, SWD have the ability and capacity to exceed academic expectations set forth by special education teachers and the IEP overall. Agriculture teachers believed that many student's IEP's are setting goals too low and it is reinforcing negative behaviors in the future of the student. Agriculture teacher respondents felt

this might be the greatest injustice that the IEP did for a SWD. They felt strongly about the importance of “correct” and “challenging” accommodations and expectations for SWD because they felt responsible when preparing these students for their professional lives after high school.

According to respondents, teacher collaboration between agriculture and special education teachers was negatively impacted by the physical location between the two groups of teachers within the school building. As mentioned before, face-to-face communication for collaboration was popular amongst agriculture and special education teachers. The physical distance between agriculture teachers and special education teachers according to some respondents was a 10-minute walk. This becomes a greater issue when teachers need to discuss material that was extremely private and/or confidential. Teachers did not like to email certain pieces of information because they do not want to risk jeopardizing the student by putting their private information “in writing.” They are also hesitant to speak on the phone because they fear that other students or teachers will overhear their conversations. Multiple schools within the research study had separate CTE buildings that housed agriculture department great distances from the “academic” building. Supervising SWD transitioning from the “academic” to the “CTE” building also becomes another responsibility and potential issue for both the agriculture teacher and the special education teacher.

### **Overcoming Barriers to Collaboration**

Because of the COVID-19 pandemic, there has been a drastic increase in using online platforms for learning, such as Zoom, Google Classroom or Google Meet; in schools all across America. The increased use and experience with these venues for instructional delivery has required educators to think “outside of the box” when it comes to providing education. With this new-born knowledge and associated skills, comes an opportunity for overcoming some of the

barriers that prevent enhanced collaboration between agricultural education teachers and special education teachers. By using this relatively new technology, AGED teachers (and many other teachers) can attend IEP meetings, as well as eligibility and addendum meetings. These meetings can be more streamlined by scheduling them in shorter time slots throughout the day. They can be quickly and efficiently arranged on a moment's notice, as compared to making multiple emails, calls, and texts to all parties involved. This minimizes the chance that a meeting will be forgotten by anyone who is invited. Meetings can be recorded, benefiting all IEP stakeholders in that it they are documented. Recorded meetings can also serve as documentation for legal purposes. Special education teachers and AGED teachers can meet online more frequently throughout the year to enhance their collaboration. No longer will physical distance within the school be a barrier to collaborate.

Special education teacher respondents often mentioned the amount of time and effort it takes to complete and process special education paperwork. Completing, printing, coping, documenting, distributing, and processing special education paperwork can be complicated and overwhelming. Traditionally, weekly/monthly progress reports, IEP and subsequent meeting notes, as well as student academic and behavior performance has been documented on paper. Thus, causing agriculture and special education teachers (as well as other teachers) to walk to submit paperwork to the other teacher or the mailroom. As miniscule as this sounds, teachers might not have an extra 10 minutes to walk to find other teachers or the mailroom. The COVID-19 pandemic has pushed schools to use software like Google Docs and Google Forms to help teachers obtain academic and behavioral modification notices for students with special needs. Because of this technology, special education teachers have not had to individually email, call, or personally seek all of the students' teachers weekly/monthly to obtain information because they

can “share” the Google Doc or Google Form. DocuSign can be used to gather signatures, thus eliminating the need to chase down signatures. If using these electronic recordkeeping technologies can become standard operating procedures, it can drastically reduce the time and effort for everyone involved in processing paperwork.

With regards to agricultural education and special education teacher preparation programs, it is very difficult to provide all the training needed to know everything involved in providing accommodations for students with special needs. A combination of state licensure requirements, graduation requirements, and national credentialing requirements for teacher education programs create time constraints that prevent proper education and training in this area. In addition, agriculture teachers who begin teaching with a provisional license come to their first year of teaching with absolutely no background in how to accommodate students with special needs and special education provisionally licensed teachers bring to their first year of teaching little or no knowledge of agricultural education. Therefore, it is imperative for school administrators and school divisions to allot time and resources for professional development in this area. This professional development should be an ongoing process to allow these teachers to obtain the knowledge and skills they need and to continue to grow in this area as time goes on.

Many of the collaboration barriers found within this study could be prevented if agriculture and special education teachers discussed student and teacher expectations at the beginning of and throughout the year. Agriculture teacher respondents commonly felt that students with special needs had more potential than what was expected of them. For various reasons, they felt that special education teachers’ expectations were usually lower than their own. The agriculture teacher participants felt that if a dialog is initiated and continued throughout the school year between them and special education teachers to develop common student and teacher

expectations, realistic accommodations could be planned and implemented to assist students in meeting the expectations.

### **Theoretical Framework Serving as an Underpinning of the Study**

Ajzen's Theory of Planned Behavior (TPB) served as the theoretical framework for this study. Five constructs create the foundation of this theory. They are as follows: perceived behavioral control, attitude, subjective norms, intention, and behavior (Ajzen, 1991). An individual's intention is a vital aspect of the TPB because it is one's strength of intent, or lack of intent, directly relating to the actual performance of behavior (Ajzen, 1991). Intention is created or determined through the relationship between perceived behavioral control, attitude, and subjective norms (Ajzen, 1991). Ajzen (1991) reported that perceived behavioral control, attitude, and subjective norms make separate contributions in creating the intention construct. Perceived behavioral control, attitude, subjective norms, and intention are also interconnected and have the capability to potentially predict and explain human behavior (Ajzen, 1991). The author stated that the TPB was constructed in efforts to explain an individual's behavior within a certain context (Ajzen, 1988). The behavior under investigation for this study was the performance of collaboration between secondary agricultural and special education teachers within the context of including SWD within secondary agricultural education classrooms and laboratories. Specific results were found that directly related to many of the theory's constructs. The remainder of this section in chapter five provides examples of how the TPB served to underpin this study.

#### **Construct of Perceived Behavioral Control**

The perceived behavioral control construct contains the assumptions that an individual's past experiences are considered as well as the individual's anticipated obstacles that could arise

with regards to the behavior under investigation (Ajzen, 1991, p.191). With regards to this study, participants from both groups of teachers reported experiencing several barriers or obstacles with regards to their collaboration with one another. Examples of these barriers included time constraints, lack of understanding of each other's respective field, physical location within the school, and lack of support among school administrators. They also anticipated that many of these obstacles would remain without concrete plans for overcoming them.

### **Construct of Attitude**

According to Ajzen (1991), the attitude construct refers to “the degree to which a person has a favorable or unfavorable evaluation or appraisal of the behavior in question” (Ajzen, 1991, p. 188). In relation to this study, although the participants identified and experienced barriers for collaboration, they did express positive attitudes for enhancing this collaboration. They also expressed a positive attitude for each other. In both cases, this positive attitude increases the chances for overcoming the barriers, and thus enhancing collaboration between the groups.

### **Construct of Subjective Norms**

Subjective norms consider an individual's perception with regards to the acceptance or disapproval from others when the individual performs the behavior under investigation (Ajzen, 1991). As it relates to the behavior of teacher collaboration between secondary agricultural and special education teachers within the context of this study, participants perceived the acceptance from all involved for enhancing collaboration between agriculture teachers and special education teachers. They also perceived that overcoming some of the barriers was possible but would be difficult to achieve.



### **Construct of Intention**

Ajzen (1991) stated that an individual's intention is a "central" factor to perform or not perform a specific behavior under investigation as it relates to the TPB (p. 181). Within the context of this study, the "intention" to collaborate or the "performance" of collaboration between secondary agricultural and special education teachers was examined. Fancy, a secondary special education teacher, cited the strength of "intention" to perform teacher collaboration was based on the common goal of success for SWD within secondary agricultural education. Fancy stated, "I think we all have-, we all have the same goal. Success, we are all striving for that success in students. Um, and I think we find a common ground and strive to make that happen (paragraph #44)." If both secondary agricultural and special education teachers share a strong intention of student success, and a strong intention to collaborate with one another to reach that goal; they will have a stronger intention to perform the behavior of teacher collaboration. The construct of behavior is discussed in the next section.

### **Construct of Behavior**

With regards to the TPB, the actual performance of the behavior under investigation results from a dual relationship of the perceived behavioral control construct and the intention construct (Ajzen, 1991, p. 185). In this study, there were many common perceptions among the participants regarding barriers to collaboration. There was also a strong commonality regarding the intention of both groups of teachers for enhancing the behavior of collaboration. Together with their common perceptions and intentions, the chances for enhancing the behavior are greatly increased.

## **Recommendations for Practice**

Based on the findings and conclusions of the study, recommendations for practice are as follows.

1. A special education teacher should be assigned specifically to working with agriculture teachers to enhance the learning of students with special needs.
2. Common planning time should be scheduled to allow for collaboration between agriculture teachers and special education teachers.
3. Agriculture teachers and special education teachers should be allowed to co-teach with one another.
4. Hire more special education teachers so that they are available for agricultural education courses.
5. Provide professional development training for agriculture teachers with regards to special education accommodations, modifications, and language.
6. Ensure agriculture teachers and special education teachers understand their professional roles and responsibilities as it relates to including SWD into agricultural education classes/laboratories.
7. Maintain open communication between SWD, parents, administration, special education teachers, and agriculture teachers with regards to including SWD into agricultural education.
8. Streamline, minimize, or create a more efficient process for special education paperwork, documentation, and gathering special education information by using online technologies such as Google Docs, Google Forms, and DocuSign.

9. Use videoconferencing platforms such as Zoom Google Classroom, etc. to hold IEP, eligibility, and subsequent collaboration meetings in efforts to allow more teachers to attend.
10. Strategically plan IEP meetings during times that secondary agricultural education teachers can attend the meetings for SWD.
11. School administration and school divisions should hire personable, quality, and *fully-licensed* agriculture teachers/special education teachers to improve collaboration at the school level.
12. School administration and school divisions should refrain from mandating teacher collaboration and strategically encourage teacher collaboration with appropriate incentives.
13. School administration and school divisions should create a “positive culture” for teacher collaboration and model teacher collaboration.

### **Recommendations for Future Research**

Based on the results of this study, the following recommendations for future research are provided:

1. Address educational or training deficits with regards to inclusion and overall special education knowledge for traditionally licensed and provisionally licensed agriculture teachers.
2. Address educational or training deficits with regards to secondary agricultural education content and program components for special education teachers.
3. Duplicate this study in other parts of Virginia, other states, and urban areas.

4. Duplicate this study in middle schools where special education teachers and agricultural education teacher collaboration occurs to include SWD.
5. Implement research towards creating best practices with regards to agriculture teachers collaborating with special education teachers to include SWD.
6. Implement research to determine the specific experiences, personality traits, and communication skills that are needed to enhance collaboration between agriculture teachers and special education teachers.

### **Final Remarks**

The researcher is grateful for the professionalism, dedication, and enthusiasm shown from the agriculture teachers and special education teachers that participated. It was an honor to learn from and to interview every participant. All participants gave the researcher some of their precious time in a year that has undoubtedly pressed teachers personally and professionally. Even during the global pandemic of COVID-19 that caused major educational changes within our public schools, every participant remained optimistic about their students and the future of education. The researcher was truly humbled by their dedication to their profession and to their students. As the researcher, the main take away from interviews was that these teachers were willing to sacrifice more time and effort if it meant that students would receive a better education. As an agriculture teacher, the participants helped remind me how important my teaching position was for the children. The researcher was also reminded how important it is to have professional relationships with co-workers as they are unique, talented, and inspiring. Teachers must remember that some of the best resources within education maybe in another co-worker. It is in his opinion that stakeholders within agricultural education, special education, and secondary education should better advertise the importance of these teachers to their

communities. Additionally, they should ensure that the public is aware of what these teachers do for students because they are immensely underappreciated. The researcher cannot put into words how much the support from everyone means personally and wishes to express appreciation from the bottom of his heart.

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**Appendix A**  
**IRB #20-179**  
**CTE Director Letter Seeking Assistance for Research**

Dear CTE Director or Supervisor:

As a Ph. D. candidate in Curriculum & Instruction: Career and Technical Education at Virginia Tech, I am conducting a qualitative research study as partial fulfillment of my doctorate degree. The title to my research study is “Collaborative Efforts between Agricultural and Special Education Teachers to Enhance Inclusion of Students with Disabilities into Agricultural Education.”

\_\_\_\_\_ Public Schools has been identified as a potential school division for my research study. The purpose of this letter is to ask for your assistance by providing recommendations of high school agriculture education teachers who collaborate with one another to teach students in high school agricultural education programs. The study sought to gather information with regards to the experiences of high school agriculture teachers and special education teachers collaborating to include students with disabilities in high school agriculture programs. The Institutional Review Board at Virginia Tech has given me approval to conduct this research study. The purpose of the Institutional Review Board at Virginia Tech is to protect the safety and the rights of human subjects participating in research by Virginia Tech.

The type of data being sought included determining the extent of collaboration between agriculture and special education teachers. Also, information regarding barriers to teacher collaboration and ways to improve collaboration between high school agriculture and special education teachers. Additionally, your suggestions of teachers would be greatly appreciated in identifying teachers within your division who have three years of experience at their position.

I understand that you have many professional responsibilities, but I also would like you to understand that your assistance is immensely appreciated. Please do not hesitate to contact me regarding any questions or if you have an interest to assist me in this research study. At any time, feel free to contact through email [mholder7@vt.edu](mailto:mholder7@vt.edu) or call me at (276) 733-8020.

Sincerely,

Morgan B. Holder  
Ph.D. Candidate  
Curriculum & Instruction: Career and Technical Education  
Virginia Tech

**Appendix B**  
**IRB #20-179**  
**Special Education Director Letter Seeking Assistance for Research**

Dear Special Education Director or Supervisor:

As a Ph. D. candidate in Curriculum & Instruction: Career and Technical Education at Virginia Tech, I am conducting a qualitative research study as partial fulfillment of my doctorate degree. The title to my research study is “Collaborative Efforts between Agricultural and Special Education Teachers to Enhance Inclusion of Students with Disabilities into Agricultural Education.”

\_\_\_\_\_ Public Schools has been identified as a potential school division for my research study. The purpose of this letter is to ask for your assistance by providing recommendations of high school special education teachers who collaborate with one another to teach students in high school agricultural education programs. The study sought to gather information with regards to the experiences of high school agriculture teachers and special education teachers collaborating to include students with disabilities in high school agriculture programs. The Institutional Review Board at Virginia Tech has given me approval to conduct this research study. The purpose of the Institutional Review Board at Virginia Tech is to protect the safety and the rights of human subjects participating in research by Virginia Tech.

The type of data being sought included determining the extent of collaboration between agriculture and special education teachers. Also, information regarding barriers to teacher collaboration and ways to improve collaboration between high school agriculture and special education teachers. Additionally, your suggestions of teachers would be greatly appreciated in identifying teachers within your division who have three years of experience at their position.

I understand that you have many professional responsibilities, but I also would like you to understand that your assistance is immensely appreciated. Please do not hesitate to contact me regarding any questions or if you have an interest to assist me in this research study. At any time, feel free to contact through email [mholder7@vt.edu](mailto:mholder7@vt.edu) or call me at (276) 733-8020.

Sincerely,

Morgan B. Holder  
Ph.D. Candidate  
Curriculum & Instruction: Career and Technical Education  
Virginia Tech

**Appendix C**  
**IRB #20-179**  
**Participant Recruitment Letter**

Dear Teacher:

As a Ph.D. candidate in Career and Technical Education (CTE) at Virginia Tech, I am a qualitative research study as a requirement of my degree. The title of my research study is “Collaborative Efforts between Agricultural and Special Education Teachers to Enhance Inclusion of Students Disabilities into Agricultural Education.” \_\_\_\_ (CTE Director) is forwarding you this document on my behalf because they thought you might be interested to participate in this research study.

The focus of this research study it to examine collaboration between secondary special education teachers and secondary agriculture education teachers with regards to including students with disabilities (SWD) in agriculture programs. If I can speak with you, you can tell me your experiences collaborating with your peers to better include SWD. I will be speaking with multiple high school special education teachers and agriculture teachers. No one will ever know that we talked and a pseudonym (false name) will be given for all of your responses.

The amount of time required for you participation should be approximately an hour for the interview. If you choose to participate in this study, the interview will be using Zoom application with the researcher. The interview will be audio-recorded. The time for your interview is entirely up to your choosing. Please remember, that your participation in this study is entirely up to you as a participant. As a participant, your identity and information provided during the interview will be kept confidential. Also, you may withdraw from the study at any given time throughout the research process. After the completion of the interview, you will be able to review the transcription of the interview to ensure accuracy.

I have taught high school in southwestern Virginia for six years. I have worked at Christiansburg High School as an agriculture teacher throughout my teaching career and during my student teaching. I am eager to conduct this study so that I can help SWD, agriculture teachers, and special education teachers.

If you choose to participate in this study or if you have any questions regarding the study, please call me at (276) 733-8020 or email me at [mholder7@vt.edu](mailto:mholder7@vt.edu). I will contact and respond to you as soon as possible. At that time, I will also schedule a time, place, and date that is convenient for you to conduct the interview.

Once again, thank you for taking into consideration my research request. Also, thank you for your contribution to this study and I am eager to hear from you.

Sincerely,

Morgan Holder  
Ph. D. Candidate

**Appendix D**  
**IRB #20-179**  
**Interview Guide/Protocol**

**General Questions**

How many years have you been teaching high school?  
What is your greatest teaching “strength” while teaching SWD?  
What do you think of SWD in high school agriculture?

**Research Question #1: To what extent do agricultural education teachers and special education teachers collaborate to enhance inclusion of students with disabilities into agricultural education classrooms and laboratories?**

As a special education teacher, how often do you work with an agriculture teacher?  
As an agriculture teacher, how often do you work with a special education teacher?  
As a special education teacher, what does it look like to work the agriculture teacher?  
As an agriculture teacher, what does it look like to work special education teacher?  
In what situation(s) will you work with the agriculture teacher throughout the year?  
In what situation(s) will you work with the special education teacher throughout the year?

**Research Question #2: Do barriers exist that inhibit collaboration between secondary agricultural education teachers and special education teachers with regards to enhancing the inclusion of student with disabilities in agricultural education classes? If so, what are these barriers?**

What gets in the way when you are working with a special education teacher?  
What gets in the way when you are working with an agriculture teacher?  
As a special education teacher, what makes the experience(s) negative when working with an agriculture teacher?  
As an agriculture teacher, what makes the experience(s) negative when working with a special education teacher?

**Research Question #3: If barriers do exist that inhibit collaboration between secondary agricultural education teachers and special education teachers, what strategies can be implemented to overcome them?**

What do you believe helps you when working with special education teachers?  
What do you believe helps you when working with agriculture teachers?  
As a special education teacher, what do you believe increases collaboration between teachers?  
As an agriculture teacher, what do you believe increases collaboration between teachers?  
How do you believe administrators or the school system can help teachers work together?

**Research Question #4: What best practices exist, if any, for the collaboration of agricultural education teachers and special education teachers for enhancing the inclusion of students with disabilities in agricultural education classes?**

As the special education teacher, how do you know if collaboration was effective with the agriculture teacher?

As the agriculture teacher, how do you know if collaboration was effective with the special education teacher?

What made collaboration positive with the agriculture teacher?

What made collaboration positive with the special education teacher?

What motivates you to seek the support in the agriculture teacher?

What motivates you to seek the support in the special education teacher?

**Closing**

Is there any additional information you would like to share?

Can I contact you if I have any other questions regarding the interview?

Thank you for participating in the study and have a good day.

**Appendix E  
IRB #20-179  
Study Information Sheet**



## Information Sheet for Participation in a Research Study

Principal Investigator: Dr. Bill Price

IRB# and Title of Study: 20-179 & Collaborative Efforts between Agricultural and Special Education Teachers to Enhance Full Inclusion of Students Disabilities into Agricultural Education

You are invited to participate in a research study. This form includes information about the study and contact information if you have any questions.

“I am a graduate at Virginia Tech, and I am conducting this research as part of my course work.”

### **○ WHAT SHOULD I KNOW?**

- If you decide to participate in this study, you will complete a Zoom interview. *As part of the study, you will* be asked multiple questions about your experiences collaborating/working with an agriculture or special education teacher. You will be interviewed online by Morgan Holder due to the COVID19 pandemic. The date and time of the interview will be scheduled on a time that is appropriate and convenient for you. To ensure correctness and reliability of the data, the interview will be recorded with an audio-recording device. The online interview will be audio and video recorded using Zoom software. Pseudonyms will be used to ensure potential participant privacy/confidentiality. A verbatim transcription of the interview will be given to the potential participant to review to ensure accuracy. You can withdraw from the study at any time without penalty.

The study should take approximately less than 60 minutes of your time.

We do not anticipate any risks from completing this study.



You can choose whether to be in this study or not. If you volunteer to be in this study, you may withdraw at any time without consequences of any kind. You may also refuse to answer any questions you don't want to answer and remain in the study. The investigator may withdraw you from this research if circumstances arise which warrant doing so.

## ○ CONFIDENTIALITY

We will do our best to protect the confidentiality of the information we gather from you, but we cannot guarantee 100% confidentiality.

Your responses are anonymous, so no one can associate your answers back to you. Please do not include your name or other identifying information in your responses that can identify you.

## ○ WHO CAN I TALK TO?

If you have any questions or concerns about the research, please feel free to contact the individuals listed below.

### **Student Co-Researcher:**

Morgan Holder (276) 733-8020 [mholder7@vt.edu](mailto:mholder7@vt.edu)

### **Principal Investigator:**

Dr. Bill Price, Faculty Advisor (540) 231-7390 [wprice@vt.edu](mailto:wprice@vt.edu)

You are not waiving any legal claims, rights or remedies because of your participation in this research study. If you have questions regarding your rights as a research participant, contact the Virginia Tech HRPP Office at 540-231-3732 ([irb@vt.edu](mailto:irb@vt.edu)).

***Please print out a copy of this information sheet for your records.***

**Appendix F**  
**IRB #20-179**  
**Participant Thank You Letter**

Dear [Participant Name]:

Thank you again for agreeing to participate in this study. In interviewing you, I hope to develop a detailed understanding of the ways in which collaboration takes place between secondary agricultural education teachers and special education teachers in southwestern Virginia. As I mentioned earlier, I am completing this study as a requirement for my Ph.D. degree in Curriculum and Instruction at Virginia Tech.

Before our interview takes place, please a moment to reflect on your experiences of collaboration with your peers as it relates to including SWD's in agriculture programs. For example, please reflect on specific times in your professional past experiences when including SWD's. Also, please reflect on specific times in your professional past where you collaborated with a secondary agricultural education teacher or special education teacher. I would also like you to think about any obstacles or barriers of collaboration with the above mentioned peers. Additionally, I would like you to think about positive experiences and relationships in your pass as it relates to collaboration. Please reflect on any experiences that you see as relevant to the topic of professional collaboration with peers.

The information collected within this study aims to help professional collaboration within comprehensive high schools and improve overall inclusion for SWD's. You will have the opportunity to review the interview manuscript of the transcribed interview for accuracy. Please respond to the research questions in whatever way you feel is most appropriate. **There are no right or wrong answers in this interview: I sought to learn about your experiences, whatever they have been for you.** It is important that you describe you actual experiences, just as they happened for you. I will also ask you to describe your experiences in as much detail as possible.

I am the sole researcher on this study. I will be the only student that will be involved in this research process and a final written report will be submitted to my four committee members at the end of this study. There will be no way that your identity will be discovered. I will contact you soon after the end of the study to share the finding with you and give you copy of the written report. I also want to mention again that your participation in this study is entirely voluntary. Your identity will be kept confidential at all times and you are free to withdraw from this study at any time without penalty. If you have any questions about the study, or if you would like to discuss anything else with me please do not hesitate to phone me at (276) 733-8020. I look forward to working with you on this research study.

Sincerely,

Morgan Holder  
Ph. D. Candidate  
Curriculum and Instruction: Career and Technical Education

**Appendix G**  
**IRB #20-179**  
**Participant Follow-up Email**

Dear Agriculture Teacher or Special Education Teacher,

As included in the attached email, I am conducting a research study focusing collaboration between high school agriculture education teachers and special education teachers as it relates to including SWD in high school agriculture programs. I am enthusiastic about how this study might assist teachers by improving collaboration at the high school level to better include SWD.

If you choose to participate, your participation in this research study will involve an online interview that will last approximately one hour. I will contact you through telephone or email to setup a time of your choosing to conduct the one-on-one interview using the Zoom application. Remember, your participation in this study is entirely voluntary and you may withdraw at any point in time. If you choose to participate in this study, your identity and information given during the interview will be kept completely confidential. Once again, you can withdraw at any time if you choose to participate and you will also have the option to review the transcribed interview text to ensure its accuracy.

If you are interested in participating or have any questions regarding the research study or the interview process please contact me at any time. You can call me at (276) 733-8020 and email me at [mholder7@vt.edu](mailto:mholder7@vt.edu). I appreciate your time and thank you.

Sincerely,

Morgan Holder  
Ph.D. Candidate  
Curriculum & Instruction: Career and Technical Education  
Virginia Tech

**Appendix H**  
**IRB #20-179**  
**IRB Approval Letter**



**Division of Scholarly Integrity and  
Research Compliance**  
Institutional Review Board  
North End Center, Suite 4120 (MC 0497)  
300 Turner Street NW  
Blacksburg, Virginia 24061  
540/231-3732  
irb@vt.edu  
<http://www.research.vt.edu/sirc/hrpp>

**MEMORANDUM**

**DATE:** September 29, 2020  
**TO:** Bill Price Jr, Morgan Holder  
**FROM:** Virginia Tech Institutional Review Board (FWA00000572, expires October 29, 2024)

**PROTOCOL TITLE:** Collaborative Efforts between Agricultural and Special Education Teachers to Enhance Inclusion of Students with Disabilities into Agricultural Education

**IRB NUMBER:** 20-179

Effective September 29, 2020, the Virginia Tech Human Research Protection Program (HRPP) determined that this protocol meets the criteria for exemption from IRB review under 45 CFR 46.104 (d) category(ies) 2(ii)

Ongoing IRB review and approval by this organization is not required. This determination applies only to the activities described in the IRB submission and does not apply should any changes be made. If changes are made and there are questions about whether these activities impact the exempt determination, please submit an amendment to the HRPP for a determination.

This exempt determination does not apply to any collaborating institution(s). The Virginia Tech HRPP and IRB cannot provide an exemption that overrides the jurisdiction of a local IRB or other institutional mechanism for determining exemptions.

All investigators (listed above) are required to comply with the researcher requirements outlined at:

<https://secure.research.vt.edu/external/irb/responsibilities.htm>

(Please review responsibilities before beginning your research.)

**PROTOCOL INFORMATION:**

Determined As: **Exempt, under 45 CFR 46.104(d) category(ies) 2(ii)**  
Protocol Determination Date: **September 29, 2020**

**ASSOCIATED FUNDING:**

The table on the following page indicates whether grant proposals are related to this protocol, and which of the listed proposals, if any, have been compared to this protocol, if required.

*Invent the Future*

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY  
*An equal opportunity, affirmative action institution*

Date*	OSP Number	Sponsor	Grant Comparison Conducted?

\* Date this proposal number was compared, assessed as not requiring comparison, or comparison information was revised.

If this protocol is to cover any other grant proposals, please contact the HRPP office (irb@vt.edu) immediately.

**Appendix I**  
**IRB #20-179**  
**Sample Interview Transcript**

Agriculture Teacher #5  
Granted Permission to audio- & video-record  
(27:12)

Researcher: Ok. So, first for agreeing to participate and letting me record you. The first thing I need to do is-, the first thing I need to do is to give you a pseudonym or a fake name.

Beth: Ok.

Researcher: So, is there any name that represents you that you would like to choose that is not your name or do you want me to give you a name?

Beth: I do not care. You can give me a name.

Researcher: Ok, well I have a list of names here and you tell me which one you like.

Beth: Ok.

Researcher: Marie. Beth. Carliegh. Gwen. Stephanie. Angie. Rebecca.

Beth: Beth, Beth is fine.

Researcher: Ok. Alright, thank you. Ok. So, here it begins, how many years have you been teaching high school?

Beth: Well, this will finish up my fifty year and I taught middle school one semester.

Researcher: Ok. What is your greatest teaching strength while teaching students with disabilities?

Beth: I think probably, because I have a little bit of ADD, I do not like to stay on one thing for very long and I like to learn different ways. So, I change my pace in my classroom pretty regularly to accommodate that and try to provide as many hands-on opportunities as possible.

Researcher: So overall, this is a holistic question. What do you think of students with disabilities in high school agriculture classrooms and laboratories?

Beth: What do I think of them?

Researcher: Yes. Just being in agricultural education.

Beth: Well, that is kind of what we do. That is our bread and butter. A majority of our students are students with some type of disability or accommodation. So, I think, those are my people.

Researcher: Yes, I hear you. These questions are more geared to the study, and just before I ask, it is the working relationship between special education teachers and agriculture teachers. That is the topic of the study. As an agriculture teacher, how often do you work with a special education teacher?

Beth: Well, I have never had a co-teaching experience. It's mostly just been in terms of providing accommodations and meeting for IEP's and things like that. So, if I had to give a time frequency, I would say monthly for each child maybe.

Researcher: And you touched on this a little bit in that answer, as an agriculture teacher, what does it look like to work with the special education teacher or special education teachers?

Beth: For the most part, part of a team that provides the accommodations and provides input on how they are doing in class. Usually, they are a liaison between us and the parents and making sure that all of their needs are being met.

Researcher: Ok. So, I guess specifically in what situations, will you work with the special education teacher throughout the year?

Beth: So, if I have a student who is not performing well in class I might meet with the special education teacher to ask them about strategies that might be better than what I might be able to provide at the time. Often times, I have had discussions about diploma statuses. Students who, not so much in this county, but in another county; I had a student who wanted to give up on passing SOL's and wanted to sign-off on an applied studies diploma. I tried to encourage those students to not go that route because of financial aid and that kind of thing. So, a lot of times it's, it's a collaborative-team approach where we are trying to meet the needs of the kids and coming up with ideas that are going to help them.

Researcher: If any, what gets in the way when you are working with a special education teacher?

Beth: So, this might be because I am a career-switcher. So, I did not go through the same type of training that a traditional teacher would go through, but sometimes the lingo. I do not always know what an accommodation means, and it is just assumed that I should know what that is. Or it might be that, you know, with the way that my classroom is setup and this kind of goes with CTE in general. We do not do things the typical way that an academic teacher might. So, some of the accommodations that they have listed don't really apply. I think part of it too is, and I guess this kind of goes towards my attitude as special education. I think sometimes we provide too many accommodations in that we are not challenging the student to push themselves. We are giving them crutches rather than support. So, often times I might have a differing opinion of what that student really needs and so I guess that kind of gets in the way at times.

Researcher: Is that usually because they [the students] show you or they can demonstrate something?

Beth: Yes. [Pause] Especially, you know in these times when we have students claim they are not technologically literate and then you see them constantly on their phone and you are like hmm? I think you are choosing not to be literate right now.

Researcher: I understand. As an agriculture teacher what makes the experience or experiences negative when you are working with a special education teacher?

Beth: Hang on one second.

Researcher: Ok.

Beth: I had somebody who was trying to talk to me from the hallway.

Researcher: Yes, I mean if you need to talk to them that is ok.

Beth: [Pause] She was, she was just catching up with me, no big deal. Sorry, what was your question?

Researcher: Ok. As an agriculture teacher what makes the experience or experiences negative when working with a special education teacher or special education teachers?

Beth: Well kind of going back to that having that differing opinions on what they [students] actually need, or maybe I do not always understand the accommodation. Part of it too is I think where maybe I am a little bit old school in my teaching philosophy, I feel like students should learn how to take notes traditionally and should still try to memorize things. Because I know people who have disabilities are perfectly capable. It is just a matter of actually putting in the effort. I have not seen it as much here, but I felt like in another high school, students took advantage of the system at times. Sometimes, the special ed. teachers enabled that behavior, but here I have not seen that as much. I feel like most of the students know that they are held to a higher standard and they are meant to meet it. I have not seen a lot that interference here; but in general, I have seen some interference from special ed. teachers in terms of challenging their kids to rise above their disability and learn coping mechanisms and new strategies.

Researcher: Ok. And just so you know, I am not going to put any of the names of the school divisions in here.

Beth: I figured as much.

Researcher: Ok. I just wanted to let you know that too.

Beth: Yes.

Researcher: So, do not worry about that. There will be no names.

Beth: ok.



Researcher: What do you believe helps you when working with a special education teacher?

Beth: I think that often I get to know the kids better than maybe the core teachers do because I might have them more-than-once in class. I might be able to build a relationship with that student that helps to kind of open them up. Or help them discover new ways of doing things and because I provide hands on opportunities. I know a lot of times I go into an IEP meeting the core teachers will be talking about a student and they are doing this, this, and this in their class; and how they are a disruption, and they are a behavior problem, and I am like I am not seeing any of that from little Johnny and here are some of the strategies we use that work. And so a lot of times, that dialogue opens between me and the special education teacher to help provide some guidance moving forward maybe when they go to a new teacher about how they might be able to provide support for that student.

Researcher: As an agriculture teacher, what do you believe increases collaboration between teachers?

Beth: I think being in it for the kids and just having the kids first in your mind. Showing compassion for them and their situation. Trying to be forgiving, and flexible, and often the kids that are struggling the most and are the hardest to love are the ones that you need to spend more time in trying to build that relationship with. And so, I feel like, as an agriculture educator, we get that opportunity.

Researcher: Ok. How do you believe administrators or the school system can help teachers work together?

Beth: I think maybe just having the expectation and the understanding that you are colleagues and that you are in it together. And just not a them versus us type of situation that, you know, that everybody is here to serve the kids.

Researcher: Ok. As an agriculture teacher, how do you know if collaboration was effective with the special education teacher or special education teachers?

Beth: I guess probably just when you see them in the hallway after that student has left your classroom and they say you know hey so-and-so is doing much better. We are implementing some strategies that we talked about. Or even if they are in your class currently, not just even after you notice their grades are improving. Or your relationship with that student improves, or if they are. Often times, behavior comes with special education and if that student is not giving you such a hard time in class anymore. Maybe, you can attribute that to a successful collaboration.

Researcher: So, student-centered?

Beth: That, that is my thing. I mean if you are seeing the results in the student you know your collaboration was successful.

Researcher: Right. So, what made collaboration positive when you were working the special education teacher. I know you touched on that a little bit but if there is anything to add about it being a positive experience that sticks in your mind.

Beth: I think of two different situations. Specifically, there was one about the diploma status. I had a young lady that was in a couple of my classes and then she could not pass her biology SOL. The special education case manager came and talked to me and said, "Hey, so-and-so wants to get her applied studies diploma instead of trying to pass her biology SOL and we need you to come to the meeting." So, I went to the meeting and her mom was there, as well as the case manager, administrator, the whole team; and I basically, the special education teacher and myself, we basically talked her into not doing it [switching diploma status]. To try to, try to pass the SOL again. So, I actually ended up tutoring this student. She came in over the summer and she passed her SOL. So, she was able to get her gen. ed. studies rather than the applied. So, that was an example of something collaborative, and again I think it was because we both had the best interest of the student at heart because she had plans of being a vet. assistant. I told her, you know you have to go to college to do that and I know your situation. You cannot pay for that, you cannot get financial aid if you do this applied studies diploma. She did know that and so it was just a matter of educating her and showing her options. I had another situation where I worked closely with a special education teacher because it was a behavior issue. And we had, myself and the student had kind of gotten off to a rough start. So, I went to go talk to the special education teacher to see if she could provide me with some insight as to what the situation might be. Because of what she knew, I was able to change my attitude toward that student and we were able to get on a more successful path. He ended up really liking my class and doing well in class. He calmed down and we just did not start off well. Then come to find out, he had kind of a rough situation. So, when she explained that to me, I approached him in a different way.

Researcher: Yes, I did not know about the diploma status.

Beth: Yes.

Researcher: So, thank you for that.

Beth: Sure.

Researcher: Ok. As an agriculture teacher, what can administrators or the school system change to help you work with the special education teacher?

Beth: I think for me, and this is something that I actually talked with [an administrator] and [superintendent] over in another county. Sorry if I am name dropping but-

Researcher: That's ok.

Beth: Yes, because I felt like I was uneducated as to what their [special education teacher] job was. So, I hate to make anybody go through professional development, but I think that is a change that should happen. There should be some education as to what the special education department does; and what their purpose is, and what accommodations are, and what they mean.

So, in terms of a change, maybe just a change in policy of if you are a new faculty or not necessarily new to the system but new in general, you need to have some training on this. Because especially if you are a career-switcher, then you are coming from T&I and you do not have any background on working with students in special education. That is a lot of times where I see relationships fall apart in the classroom. When you have someone who does not understand what there accommodations are and we don't teach kids to advocate for themselves. That is always something I try to push in my classroom, because a lot of times the paperwork does not get to me very fast. I wish there was a way to do that faster. Maybe that is another thing administrators can work on is faster and easier way to get that information out. I know that is more of a state law in how that has to be done, but I do not know why we are still doing paper and doing it the way we are in a world of technology that we live in. There has to be a faster way to get that information out, because there will be times where I have had a student in class for two weeks and I did not know they had accommodations. Nobody ever told me, and so that has been an issue in the past.

Researcher: So, and you touched on this earlier. What motivates you to seek the support in the special education teacher?

Beth: I mean basically if things are not going well in the classroom. Either it is behavior, or it is grades, or it is poor performance. Whatever it might be, if there is something going on, I feel like there is probably a reason and I want to get to the bottom of it. So, I always try to talk to-. Sometimes talking to previous teachers is not the best idea because if they had a bad relationship with that student then they are going to try to taint you right off-the-bat. So, sometimes going to the special education teacher can provide insights on family life, or their previous educational experiences. And maybe more-, that is one thing I really like about special education is that they are not coming at this with a judgmental perspective. They are usually very matter-of-fact. This is the situation and I really like that. They are a great liaison with parents and the family and I appreciate that very much.

Researcher: Ok, and it sounds like you have had positive experience, so this is an "if any" question. In your opinion, if any, what needs to change for the special education teacher to better support you with a student.

Beth: I just think I wish I was better educated as to what the accommodations are. I do wish sometimes special education teachers were better educated on the role of CTE and how that works. Because if you have a paraeducator or an aide that is with a student; because their students are mostly in CTE courses, they understand it, they get it. If you have a special education case manager that is mostly co-teaching in an academic classroom, they do not necessarily see what we [CTE] are doing. So, I think it would be really good for them to see that. Or even if we had a special education teacher that was for CTE that would maybe go in and co-teach in places. Maybe go in and float around and see how they can help because a lot of their students are in multiple CTE courses. That might be a way to bridge that gap. I do feel like that is a missing piece.

Researcher: I guess this is kind of like an overall indicator. As an agriculture teacher, how do you know that working with the special education teacher was a success? I guess end-product type of deal.

Beth: I think a lot of times if we can start removing accommodations because the students have grown and there is not a need for the accommodation that is a success. If we have taught the student to advocate for themselves, because when they go to college they will still have this IEP or 504. Or, they want to continue to be successful because they know these things help them. They need to be able to advocate for themselves. Seeing a student attain their goals or if they didn't have any, start learning how to set goals and start working towards them. I think that the student-centered, the student is the result. So, you know you have been successful when you see them start to make change in a positive direction. Or in the very least, be comfortable with who they are.

Researcher: Ok. Is there any other additional information you would like to share about the working relationship between special education teachers and agriculture teachers?

Beth: There is one thing. So, I had a situation where I had a student who had, had a para[educator] with him. When he got to high school, they decided to take it away. They changed his diploma status from applied studies to gen. ed. He had been in inclusion courses and he had actually been pulled for some to do the lifestyle type classes. When he got to my class he was as sweet-as-could-be but the child could not pass the safety tests. [He] could not pass them. So, he could not go in and operate any of the machines and was honestly scared to death of them. So, I went to the special education meeting for him and looked at his IEP. They were-, the case managers and everybody was like, "Oh yea, he is going to be a construction worker and he is going to, you know we have these goals set for him and this is why we changed his diploma status." I told them you understand that by changing this diploma status you have made it to where he has to get an industry credential to pass and graduate. So, that means he has to pass something and they were like, "Oh yea, he is going to get OSHA." I said no he is not. I can tell you right now he is not going to pass it because he cannot even pass my general safety test. So, we have done him a disservice by changing this. If we change his diploma back we can actually say he does not have to do these particular competencies and we can be more specific in what his goals actually should be in CTE. That was something another CTE director taught me was that if they [the student] need to we can go in and tailor that if they have to pass a state board test of some type. If they cannot do that then we have to look at how to best serve that student. By setting them up by not being able to pass that, we are setting them up for failure.

Researcher: Ok. Can I contact you if I have any other questions regarding answers or the interview?

Beth: Of course.

Researcher: Ok, well I am going to stop the recording right now.

Beth: Ok.

**Appendix J**  
**IRB #20-179**  
**Sample Coding**

**R1→To what extent do agricultural education teachers and special education teachers collaborate to enhance inclusion of students with disabilities into agricultural education classrooms and laboratories?**

1) Constant collaboration: weekly basis

Ag. teacher seeks SPED teacher: academic modification support

Ag. teacher seeks SPED teacher: academic modification support

Ag. teacher seeks SPED teacher: behavioral modification support

2) Constant collaboration: weekly basis

Limited time for teacher collaboration: work overload

Ag. teacher seeks SPED teacher: academic modification support

Lack of understanding: Prior student ability, history, & expectations

Ag. teacher seeks SPED teacher: behavioral modification support

Ag. teacher seeks SPED teacher: paraprofessional/assistant support

Ag. teacher seeks SPED teacher: assessment modification support

3) Constant collaboration: weekly basis

Teacher experience: Instructing SWD

Ag. teacher seeks SPED teacher: behavioral modification support

Ag. teacher seeks SPED teacher: academic modification support

Positive/professional teacher relationships

Life/career skills collaboration

4) Barrier: SPED Understaffed

Teacher communication: email

Constant collaboration: weekly basis

Ag. teacher seeks SPED teacher: academic modification support

No co-teaching

Teacher communication: email

Ag. teacher seeks SPED teacher: academic modification support

5) No co-teaching

Constant Collaboration: monthly basis

Ag. teacher seeks SPED teacher: academic modification support

Attending IEP meetings

Teacher communication

Positive/professional teacher relationships

Ag. teacher seeks SPED teacher: behavioral modification support

Ag. teacher seeks SPED teacher: graduation status/credit support

6) Constant communication: daily basis

Teacher communication: Hard copies of IEP

Teacher communication: face-to-face  
Positive/professional teacher relationships  
Positive/professional teacher relationships  
Ag. teacher seeks SPED teacher: academic modification support  
Ag. teacher seeks SPED teacher: assessment modification support (safety tests)  
Teacher Experience: Instructing SWD (universal design)

#### 7) Limited Collaboration

Barrier: SPED Understaffed (dedicated to core classes)  
Teacher Communication: Hard copies of IEP  
Positive/professional teacher relationships  
Ag. teacher seeks SPED teacher: academic modification support  
Ag. teacher seeks SPED teacher: assessment modification support (safety tests)  
Barrier: SPED Understaffed  
Attending IEP meetings → Teacher communication  
Barrier: SPED Understaffed (dedicated to core classes) → works with paraprofessionals

#### 8) Teacher communication

Relying on other's expertise  
Ag teacher seeks SPED teacher: academic modification support  
Ag teacher seeks SPED teacher: behavior modification support (reactive rather than proactive)

**R2 → Do barriers exist that inhibit collaboration between secondary agricultural education teachers and special education teachers with regards to enhancing the inclusion of student with disabilities in agricultural education classes? If so, what are these barriers?**

#### 1) Barrier: Scheduling

Barrier: SPED Understaffed  
Lack of understanding: Ag. content/instruction (SPED)  
Lack of understanding: adapting modifications

#### 2) Barrier: Scheduling

Lack of understanding: Prior student ability, history, & expectations  
Limited time for teacher collaboration: work overload  
Lack of understanding: Ag. content/instruction (SPED & guidance)  
Barrier: Equity/Access to content  
Lack of understanding: Ag. content/instruction  
No co-teaching

#### 3) Barrier: Paperwork

Limited time for teacher collaboration: work overload  
Barrier: Scheduling  
Barrier: Not able to meet face-to-face/department location  
Lack of understanding Ag. content/instruction  
Different teacher expectations vs. IEP modifications/accommodations  
Lack of understanding: prior student ability, history, & expectations

4) Barrier: SPED understaffed  
No co-teaching (for electives)  
Positive/professional teacher relationships  
Lack of understanding: Prior student ability, history, & expectations → Relying on other's expertise  
Barrier: not able to meet face-to-face/department location

5) Lack of understanding: Ag. content/instruction  
Lack of understanding: Special education accommodations, modifications, & language  
Different teacher expectations vs. IEP modifications/accommodations  
Different teacher expectations vs. IEP modifications/accommodations

6) Positive/professional teacher relationships  
Understands: roles/responsibilities: ag. ed. vs. SPED  
Positive/professional teacher relationships

7) Barrier: SPED Understaffed (dedicated to core classes)  
Limited time for teacher collaboration: work overload  
Barrier: Scheduling  
Barrier: SPED Understaffed (dedicated to core classes)  
Limited time for teacher collaboration: work overload → Hesitant to bother SPED teacher

8) Positive/professional teacher relationships (limited)  
Limited time for teacher collaboration: work overload → Hesitant to bother SPED teacher  
Barrier: Scheduling  
Limited time for teacher collaboration: work overload → Hesitant to bother SPED teacher  
Barrier: SPED Understaffed

**R3 → If barriers do exist that inhibit collaboration between secondary agricultural education teachers and special education teachers, what strategies can be implemented to overcome them?**

1) Lack of understanding: Ag. content/instruction  
Different teacher expectations vs. IEP modifications/accommodations  
Teacher communication: email  
Schedule teacher collaboration time

2) Teacher experience: Instructing SWD  
Positive/professional teacher relationships  
Ag teacher seeks SPED teacher: behavior modification support  
Ag teacher seeks SPED teacher: academic modification support  
Limited time for teacher collaboration: work overload  
Lack of understanding: prior student ability, history, & expectations

3) Teacher Communication  
Barrier: Not able to meet face-to-face/department separation  
Positive/professional teacher relationships

Positive/professional teacher relationships  
Administrator flexibility/openness (not mandated)  
Schedule teacher collaboration time (better with COVID schedule)  
Limited time for teacher collaboration: work overload

4) Schedule teacher collaboration time  
Teacher communication: email  
Barrier: Not able to meet face-to-face/department separation  
Barrier: SPED understaffed  
Schedule teacher collaboration time  
Administrator flexibility/openness (encouragement)

5) Effective Collaboration Indicator: Student taking another ag. course  
Positive/professional teacher relationships  
Teacher communication: face-to-face  
Attending IEP meetings  
Teacher Experience: Instructing SWD  
Positive/professional administrator relationships  
Administrator flexibility/openness (not mandated)

6) Teacher Experience: Instructing SWD  
Teacher communication (benefit of small school)  
Relying on other's expertise  
Different teacher expectations vs. IEP modifications/accommodations  
Administrator support with SPED  
Attending IEP meetings → Administrators communicating/covering classes

7) Positive/professional teacher relationships (teamwork)  
Teacher communication (benefit of small school)  
Relying on other's expertise (school projects)  
Positive/professional teacher relationships (teamwork)  
Teacher communication  
Positive/professional administrator relationships  
Administrator flexibility/openness (not mandated/avoids micromanagement)  
Administrator support with SPED (and trust employees)  
Hires quality SPED staff

8) Positive/professional teacher relationships  
Teacher communication  
Barrier: Scheduling  
Schedule teacher collaboration time (1/week)  
Co-teaching  
Limited time for teacher collaboration: work overload  
1 Co-teaching Experience: Life/career skills collaboration → Self-contained vs. Full inclusion:  
Ag. Class (equity access to content)



**R4→What best practices exist, if any, for the collaboration of agricultural education teachers and special education teachers for enhancing the inclusion of students with disabilities in agricultural education classes?**

- 1) Effective Collaboration Indicator: Student skill and/or behavior improvement  
Effective Collaboration Indicator: Co-workers listening  
Ag teacher seeks SPED teacher: academic modification support  
Ag teacher seeks SPED teacher: behavioral modification support
- 2) Effective Collaboration Indicator: Student skill and/or behavior improvement  
Effective Collaboration Indicator: Co-worker flexibility  
Teacher Experience: Instructing SWD  
Ag teacher seeks SPED teacher: academic modification support  
Ag teacher seeks SPED teacher: behavioral modification support
- 3) Effective Collaboration Indicator: Student skill and/or behavioral improvement  
Negative Collaboration Indicator: No improvement/regression  
Inclusion perception: SWD placement (overload vs. pride)  
Teacher Communication  
Lack of understanding Ag. content/instruction  
Different teacher expectations vs. IEP modifications/accommodations  
Teacher communication  
Relying on other's expertise
- 4) Effective Collaboration Indicator: Student skill and/or behavior improvement  
Teacher communication  
Positive/professional teacher relationships (student-first)  
Ag. teacher seeks SPED teacher: academic modification support
- 5) Effective Collaboration Indicator: Student skill and/or behavioral improvement  
Positive/professional teacher relationship (continues)  
Teacher communication (continues)  
Ag. teacher seeks SPED teacher: graduation status/credit support→Teacher communication  
Attending IEP meetings→Teacher communication  
Life/Career Skills Collaboration  
Teacher Experience: Instructing SWD  
Relying on other's expertise  
Ag teacher seeks SPED teacher: academic modification support
- 6) Teacher communication (constant/continues)  
Positive/professional teacher relationship (continues)  
Different teacher expectations vs. IEP modifications/accommodations  
Teacher communication (constant/continues)  
Positive/professional teacher relationship (continues)  
Hires quality SPED staff  
Ag teacher seeks SPED teacher: academic modification support  
Ag teacher seeks SPED teacher: behavioral modification support

Relying on other's expertise  
Administrator flexibility/openness

7) Effective Collaboration Indicator: Student skill and/or behavioral improvement

Effective Collaboration Indicator: Graduates, attains credentials

Teacher communication (constant/continues)

Positive/professional teacher relationship (continues)

Ag teacher seeks SPED teacher: academic modification support

Ag. teacher seeks SPED teacher: assessment modification support (safety tests)

8) Effective Collaboration Indicator: Student skill and/or behavioral improvement

Effective Collaboration Indicator: Graduates, attains credentials

Lack of understanding: Prior student ability, history, & expectations → Relying on other's expertise (SPED teacher)

Teaching Experience: Instructing SWD

Positive/professional teacher relationship (continues)

Barrier: SPED understaffed

Limited time for teacher collaboration: work overload → Hesitant to bother SPED teacher\*

Ag teacher seeks SPED teacher: academic modification support