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CTE INSTRUCTORS: PREPARATION TO INVOLVEMENT FOR SUCCESS FOR STUDENTS WITH DISABILITIES

by

Nancy Cavness

A DISSERTATION

Presented to the Faculty of

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Abstract

This researcher conducted a quantitative study with help from career and technical (CTE) instructors across Tennessee. The research was to determine how prepared CTE instructors were work with students with disabilities (SWD). CTE teachers who responded gave data pertaining to receiving and involvement in Individualized Education Plan (IEP) process, professional development, and collaboration with stakeholders so SWD would meet success. The data suggests CTE instructors were somewhat involved in the IEP process, but more focus needed to be in areas of training and collaboration.

Keywords: CTE instructors, SWD, IEP process, and stakeholders

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Chapter I: Introduction

Context

The goal of educators was to ensure students an opportunity to graduate with a high school diploma and became successful citizens of society. Upon graduation, students must decide how to proceed on into adult life. Some options were post-secondary institutions, enrolling in vocational training, or simply entering the workforce (Wagner, 2016). However, students with disabilities (SWD) this looked different than non-disabled peers. SWD had a yearly individual education program (IEP) that was developed for the sole purpose for students to meet success. An important portion of the IEP was transition plans and goals, which were vital for high school SWD. Early transition planning and active participation in decision making was imperative for successful achievement for SWD. All stakeholders in the IEP team worked together with the driving force to develop a plan for achievement of the dreams and abilities of SWD. "A transition plan provides the basic structure for preparing an individual to live, work, and play in the community, as fully and independently as possible" (U.S. Department of Education, 2017).

How can opportunities for success be introduced to SWD? Formation of positive relationships and taking a vested interest in the aspirations of SWD was a great staring point. When school districts integrate career and technical education (CTE) courses, this provided learning experiences for students to gain knowledge and preparation required for post-secondary education and valuable job-related skills (Mathis, 2010). The demand for skilled workers continued to increase in technology, marketing, health sciences, and skilled trades (U.S. Bureau of Labor, 2015), which was only a fraction of the CTE pathways options for SWD to register. By

the worlds of CTE and SWD combining then possibilities were endless for the students, CTE programs, the economy, and society in general.

Purpose of Study

The purpose of this study was to determine if CTE instructors were properly prepared and participated in areas affecting SWD, so success was obtainable. For success to be achieved, SWD were provided with the essential skills to make post-secondary life choices, which was guided by the IEP. Additionally, the study was used to research how CTE teachers acquired information about SWD and were invited to participate in IEP team meetings and decisions. Since many CTE educators did not participate in traditional teacher preparation programs, part of this investigation was what types of trainings were provided to learn how to deal with SWD, implementation of goals and accommodations. Another point viewed in this study was how CTE educators perceived the responsibilities of collaborating with other stakeholders for the success of SWD to become productive citizens of society. All factors, including personnel and partners were studied to verify working together fluidly equated to successful transitions for SWD.

Results from this study offered valuable data on information and preparation that invested in SWD led to sharing interests in CTE pathways. Therefore, this study gave a better understanding of how SWD and CTE working effectively as teams. Successful relationships added positive outcomes at the school level, but also for the economy. CTE educators shared industry knowledge and through proper training sessions can ensure SWD and all stakeholders reach desired goals. Hence, the purpose of this study was to look at the opportunity for CTE instructors, SWD, and other stakeholders to form solid teams to provide benefits for future CTE

programming, SWD living a more valued life, and the society in general with a profitable workforce (Schmalizried, 2010).

Conceptual Framework Guiding Research

When searching for a proper conceptual framework, this involved definitions of current mission and strategies, understanding historical relevance, considered different philosophies, and provided standards for guidance to share issues on the topic (Rojewski, 2002). Of these, philosophy was at the foundation of conceptual framework. Three different philosophies were identified with connections to CTE; however, pragmatism was the most predominant. Pragmatic teaching in CTE was to prepare for a life of personal and professional fulfillment. In this preparation higher-order thinking and problem-solving strategies were emphasized by building on prior knowledge (Miller, 1996). Therefore, the conceptual framework exhibited learning by experiencing.

For this study, the conceptual framework discussed by Rojewski was used as a guide in research. A CTE framework expressed general goals of CTE, reflected beliefs and perspectives of stakeholders, and shaped current and future direction. Furthermore, Rojewski (2002) believed a CTE framework (Figure 1) established parameters of current practices, to be knowledgeable of historical background, have gainful relationships between philosophy to practice, and provided a forum for guidance in the field of CTE. When this framework was developed there was a great need for conceptual framework guidance due to the state of the workplace and society.

Regarding SWD, the CTE framework components fit in special education guidelines. The external influences of economy, school reform, public expectations, and student learning all encompassed future success for SWD. Also, the internal influences of student assessment,

curriculum, student population and delivery options directly affect SWD who enrolled in CTE courses.

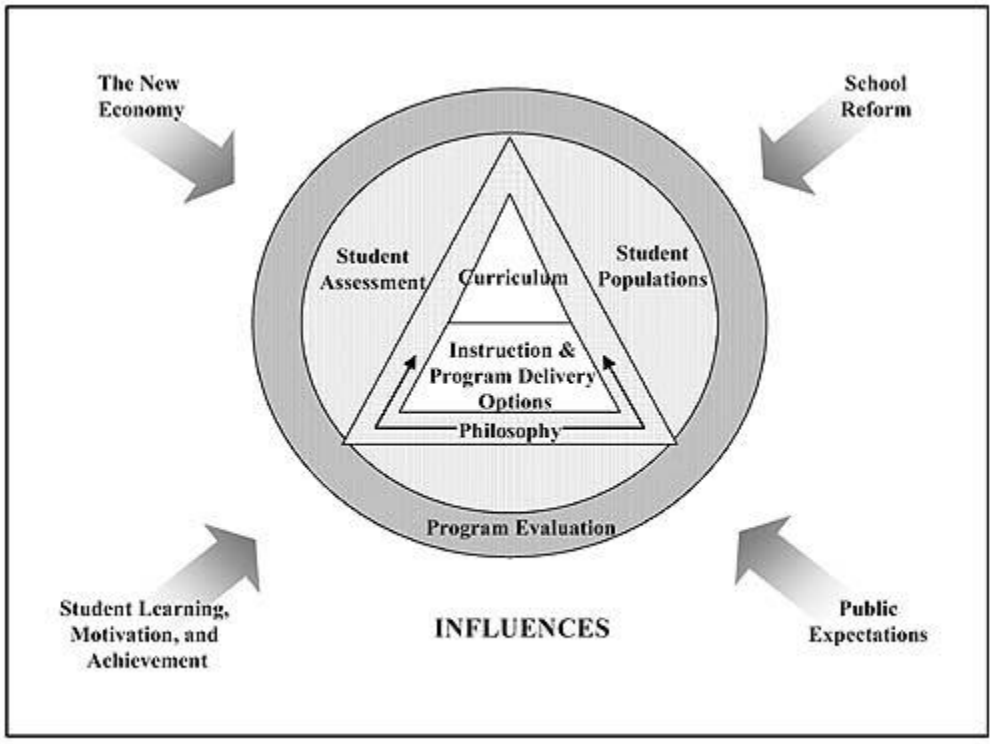

FIGURE 1. *Conceptual framework for career and technical education*

Research Questions

Research question one As CTE instructors, how and by whom do you obtain an Individualized Education Program (IEP) of students with disabilities in your classrooms?

Research question two In what ways are CTE instructors invited to IEP meetings for current or future students with disabilities? How often do CTE instructors attend IEP meetings?

Research question three How are CTE instructors provided with in-service or training sessions regarding how to implement goals and accommodations in IEP for students with disabilities?

Research question four What are the perceptions of CTE instructors for their responsibility in collaborating with stakeholders for students to meet success in CTE programs?

Significance of the Study

The significance of this study was to investigate when CTE instructors were effectively prepared then essential skills were taught to SWD for successful achievement. Education focused on providing students with the appropriate skills to reach goals in adult life was what educators desired for students. However, strategies for SWD to meet success were more challenging than nondisabled peers (Wilkins and Bost, 2016). With a positive combination of CTE courses and SWD, both attained successes. To ensure this, CTE instructors need to be trained, communication established with stakeholders, IEPs developed and implemented when working with SWD.

Industry expertise was a requirement for CTE educators for licensure to teach in CTE classrooms. CTE instructors brought real-life experiences to help students prepare for the workforce with appropriate skills (Stephens, 2015). In Tennessee, preparation of CTE instructors was different than traditional educators. Most CTE instructors came from years of working within industry. Then, these competent individuals enter the world of education with more knowledge of workforce expertise than the challenges that face teachers. With proper documentation of three years of experience with industry, completion of new teacher training, and acceptance in an educator preparation program new CTE instructors were granted a practitioner occupational license (TNDOE, n.d.). All of this happened before entering the first education class. Therefore, many new CTE instructors were going through educational programs and training, while being in a high school classroom all at the same time.

The U. S. Department of Education (2014) reported more than 50% of CTE educators in health sciences and automotive programs did not complete traditional teacher preparation programs. Furthermore, 20% of current CTE teachers do not have any type of bachelor's degree. CTE teachers were examples that a four-year degree was not necessary for being effective educators. The hands-on, real-life experiences CTE instructors shared with students was priceless. Additionally, these instructors conveyed to all students, but especially those with disabilities, that success can be obtained through challenging work and dedication.

When inexperienced CTE instructors were placed in a high school classroom, necessary supports must be put into place. All teachers work with SWD, and this was true with CTE instructors as well. Especially since SWD who took CTE courses showed benefits for success. Harvey (2002) reported CTE registration was foretelling of workforce success, entering postsecondary institutions or both for all students with disabilities. Therefore, CTE instructors need proper training and mentors to be able to meet success for SWD.

Communication between CTE instructors, special education teachers, SWD, counselors and all others involved with the education of SWD was imperative. In some cases, new CTE instructors did not realize all teachers of the SWD had a voice in the planning of the IEP. Inside these meetings was a wonderful place to establish communication and collaboration with all stakeholders (Habner & Sutherland, 2008). However, those involved needed to communicate on a regular basis for SWD to meet success. Additionally, CTE instructors had to realize knowing SWD interests and dreams can help determine the best program of study for students to be successful.

As part of an IEP at the high school level students and stakeholders must developed transition plans to live and be as independent as possible in the community (U. S. Department of

Education, 2017). CTE instructors had a responsibility to understand and take an active part in the transition planning. With an appropriate plan, high school students focused on which CTE courses granted the most advantageous skills to help meet success. Therefore, all involved needed to be held accountable for transition plans to work. If a CTE educator viewed another teacher was not fulfilling the plan, then the CTE educator needed to have immediate collaboration with the team. CTE instructors needed to realize each stakeholder had a voice in planning for SWD. Hence, an important part of CTE educator preparation was to have some knowledge of special education regulations to understand CTE teachers' and SWD rights (Wagner, 2016).

With proper training in understanding, communication, transition planning CTE instructors had the first steps of implementing effective practices. During the past several years, inclusion was a frequent practice with SWD. Inclusion required SWD were in regular education courses with needed modification and/or accommodations. Theobald et al. (2019) found students diagnosed with learning disabilities who enrolled CTE concentration program of study and inclusion increased long-term outcomes of closing the gap for SWD. Effective training needed to show how to implement inclusion for success. Other productive methods were behavior modifications, peer tutoring, mentoring, and ensuring SWD were strategically placed in the classroom to accomplish goals. Training strategies were imperative for CTE instructors for positive success for SWD inside and outside of the classroom.

With methods training provided, CTE educators needed an understanding of building a climate of respect and partnerships. Instructors not only needed to implement proper academic practices, but also in building strong relationships with SWD. Effective CTE instructors not only established rapport with SWD but also parents. When educators worked with students and

parents this developed cooperative partnerships (Habner, 2008). Once CTE teachers created respectful relationships with SWD and guardians, then bonds were more readily formed with other stakeholders. Furthermore, CTE educators needed to be approachable because this adult could be the only one SWD felt comfortable confiding hopes, dreams and problems.

Since CTE educators were likely to have a larger number of SWD and be less prepared than traditional teachers (Habner, 2008), conducting this study led to future planning for instructors and students. CTE instructors and SWD needed to be involved in placement decisions regarding programs of study. Moreover, CTE instructors ought to be an active voice in the development and implementation of the IEP. When all stakeholders involved worked as a team, the possibilities were endless. This study validated CTE instructors becoming SWD advocates through communication, training, and experience.

Definitions, Terms, and Abbreviations

Accommodations – a change that helps the student overcome the disability, but expected to complete the same amount of work

Adequate yearly progress (AYP) – the amount of progress expected a student to gain that is set forth by a state's department of education

Apprenticeships – this is a formal work experience where the student is learning a specific trade, where the length is usually for a year

Career and technical education (CTE) – refer to educational programs that offer skilled trades, applied sciences, technologies, and preparation for careers. CTE is formerly called vocational education.

Elementary and Secondary Education Act (ESEA) – This act was implemented in 1965 to combat poverty and allow equal access to quality education.

Every Student Succeeds Act (ESSA) – This act was the reauthorization to ESEA in 2015 to provide current access to quality education for all.

Free and appropriate education (FAPE) – Each child has the right to a free and appropriate education. This terminology was first used the 1975 Education for All Handicapped Children Act.

IEP Team – An IEP Team is made up of a LEA (local education agency) representative, regular classroom teacher, special education teacher, parent, and student where applicable. These are the basic members, other teachers, counselors, and outside agency members can be involved when invited.

Inclusion – students with disabilities are required to have opportunities to learn alongside non-disabled peers in regular education classrooms

Individuals with Disabilities Education Act (IDEA) – This act added needed improvements to the Education of All Handicapped Children Act by adding new disabilities categories, including transition planning, and IEP team members developing better plans for life after high school.

Individual Educational Plan (IEP) – a plan developed annually for students with an identified disability to receive special instructions or services

Individual Transition Plan (ITP) – a plan developed to help students with disabilities set goals to transition successfully into post-high school life

Internships - students are assigned certain skills in a workplace for a set amount of time. This can be paid or unpaid depending on the agreement.

Least restrictive environment (LRE) – a requirement from the federal government where students with disabilities are educated, to the maximum amount possible, with nondisabled peers.

Modifications – changes are made in what the students with disabilities are expected to learn

No Child Left Behind Act (NCLB) – This act in 2001 was the reorganization of ESEA. In this act, student expectations were raised, and teacher accountability was implemented. Additionally, this act required students with disabilities to be expected to work more with grade level skills.

Strengthening Career and Technical for the 21st Century Act (Perkins V) – This act mandated data to be used in decision making, states were given more authority, new accountability, and emphasis places on serving students with disabilities.

Students with disabilities (SWD) – students with a type of disability that impairs physical, mental, or academic access to life activities

Summary of Performance (SOP) – local districts will provide a student with disabilities academic achievement and functional performance, along with plan for how to meet students post high school goals

Work-based learning experiences (WBLEs) – provides experiences for students to learn about different types of work through career exploration, job shadowing, service learning, internships, apprenticeships, etc.

Summary

In summary, the purpose of this study was to investigate CTE instructors knowledge of gaining information about SWD, participation in IEP team meetings, specific trainings, and dealing with other stakeholders. After extensive research was examined, only a few loosely related studies were located. Due to the limited studies, research for a fitting conceptual framework was a challenge. Finally, the CTE conceptual framework was chosen as the guiding framework for the study. SWD was included in the CTE conceptual framework for guidance to find the resources and developed the tools needed for effective CTE instructors with SWD.

The results from this study were expected to have implications for CTE instructors and SWD. The workforce was continually looking for skilled employees. By the worlds of CTE and SWD combining, both groups achieved success and global society benefited too. When CTE educators were given the proper information, then those educators used the IEP for SWD to achieve individualized goals. By using the guiding force of the IEP, then SWD had opportunities to be academically and socially successful. When CTE teachers were active in developing and implementing transitional IEP goals, then SWD became better prepared for living life independently (U.S. Department of Education, 2017). Lastly, effective CTE instructors produced young adults to help not only the SWD, but local communities and society in general.

Chapter II: Literature Review

The purpose of this study was to discover how to develop proper preparation, communication, and trainings for career and technical education (CTE) instructors to be able to ensure secondary students with disabilities (SWD) meet optimum success. General education teachers, CTE instructors, and other stakeholders involved were to cultivate beneficial collaboration to meet the needs of SWD. This study encompassed ways for SWD to meet success through CTE instructors by being prepared through proper communication, effective training, and working with others to provide the best postsecondary education for entering the workforce. Chapter II provided a review of literature that included a brief history of CTE, legislation pertaining to the implementation of special education mandates, and preparation of CTE instructors with emphasis in teaching SWD. Additionally, this review conveyed the depth of knowledge with CTE instructors understood policy, development of professional relationships, and implemented practices with special education to meet the needs of SWD in secondary CTE programs.

Early CTE in America

Career and technical education were known as industrial education, manual education, technical education, career education, and vocational education (Grubb & Lazerson, 1975). Vocational and CTE were the most common references to this type of education. No matter the term, CTE was basic, real life, practical skills that focused on pairing students with the industry and commerce workforce (Benovot, 1983). Even Benjamin Franklin referred to different academics that included being practical like surveying and navigation along with traditional subjects (Ogden, 1990).

With the increase in population during the 19th century, education was forming schools and curriculum. Social class in the 1800s was how schools were divided. The institutions were quite different for the wealthy class, versus the lower classes. The manual training was more traditional curriculum for the middle and lower classes of society (Bennett, 1937). With the formation of schools caused for an emergence of different movements, ideas, and innovative thinkers.

Jean-Jacques Rousseau and Johann Heinrich Pestalozzi were two such thinkers that influenced the formation of CTE. Rousseau viewed that people were good, but society's organizations had negative effects on citizens (Smith & Smith, 1994). Furthermore, Rousseau felt learning involved interactions with the use of human senses. Pestalozzi expanded on Rousseau's views by connecting CTE to other branches of education, working with outside industry, and put a focus to educate the lower classes (Gordon & Schuluz, 2020). Gutek (1999) cited that "Pestalozzi insisted that children should learn not only to think, but also to do." Hence, education curriculum should focus on manual workforce (Gordan & Schuluz, 2020). Rousseau and Pestalozzi were just two of extensive lists of advocates of the formation of CTE.

Apprenticeships in America

In the United States, apprenticeships were the oldest type of CTE programming. To educate the workforce, apprenticeships became a form of education. However, Gordan and Schuluz (2020) discussed how CTE was not considered to be part of the school curriculum. With education moving to be more equitable for all, the designing of curriculums to meet the needs of society was challenging. American education took time to develop institutions to integrate forms

of apprenticeships into courses. Therefore, industry apprenticeships slowly became part of general education.

Essentially, there were two types of apprenticeships in early America. The first was of the voluntary nature. This type was developed in Europe with no real provisions of the law but was documented in the town records. Second was the involuntary type. In this type, master's took care of lower-class children and orphans. Basically, either apprenticeship was to provide basic needs and any type of education that was needed for a particular trade (Gordan & Schuluz, 2020). Apprenticeships evolved toward becoming part of education. Thus, apprenticeship was not a plan of unfair treatment but was primarily an educational foundation (Seybolt, 1917).

During the colonial age, society welcomed the benefits of apprenticeships. However, during the Industrial Revolution, there was a decline in apprenticeships and moved toward more career education (Brewer, 2009). There were many reasons for this decline, one of which was the development of free public schools. Smaller numbers were being trained through the apprenticeship process, due to many learning skills from parents or on the job training (Gordan & Schuluz, 2020). Even though apprenticeships declined in popularity, CTE programs have tried to revitalize this type of learning for students.

According to Kurzleben (2013), students presently were more likely to hear about apprentice programs from a television show with Donald Trump, than in an educational setting. Hence, the need to revitalize CTE, which included apprenticeships. Such programs were designed for students who were not interested in careers that required traditional college degrees (Stern, 1998). Core CTE courses, along with staff provided SWD relevant skills sets and transitions into the workforce (Powell, 2017). Therefore, CTE programs were a valuable

resource for SWD and could lead to apprentice programs. So, CTE not only had benefits for SWD, but also the local workforce and communities in general.

Legislative mandates and impact

Understanding federal legislation was important because of those mandates on expanding CTE programs. As expansions increased, knowledge of mandates implemented was important. Information about laws and how those effected SWD needed to be conveyed to CTE instructors. Society had a major impact on the development of CTE courses in education and a summarized timeline was part of this research. Educational laws were also discussed with focus on Carl D. Perkin Career and Technical Education Act (2006), Strengthening Career and Technical for the 21st Century Act (Perkins V), Individuals with Disabilities Education Act (IDEA) of 1990 (Public Law 101-336), Individuals with Disabilities Education Improvement Act of 2004 (IDEA), No Child Left Behind Act of 2001 (Public Law 107-110), and Every Student Succeeds Act (ESSA), and any amendments that needed to be included. Once federal mandates were put into place, then state and local agency had the responsibility of implementation at respective levels.

Legislation for CTE

Even before the government placed funding vocational curriculum, CTE programs were in existence for years. The legislation of CTE programming dates to February 23, 1917, with the Smith-Hughes Vocational Education Act being signed into law as the first federal funds allocated for this type of education (ACTE, 2019). These funds came at an excellent time in terms of the United States. At this time only one out of thirty adults had a four-year college degree or more (Stern, 1998). Additionally, this country was about to embark on the first World

War with World War II, the Korean War, and the Vietnam War to all follow and influence CTE. Being actively involved in these wars called for more vocational training (Gordon and Schuluz, 2020). Brewer (2009) discussed that the war years made jobs change to provide for defense and industry in the United States. Also, during this time school curriculum changed allowing for vocational courses and pretraining for military. The Smith-Hughes Vocational Education Act was a federal policy that created pathways for future legislation for CTE programs.

The Smith-Hughes Act was passed to broaden fields of study, along with other acts and additional funding. Those acts were the George-Deen Act of 1936 and 1946, and the George-Barden Amendments of 1956. The Vocational Education Act (1963) changed how funding was allocated to states. With this act, funding was based on student population (ACTE, 2019). No matter the social status, this act provided access to CTE programs that best suited individual needs, priorities, and capabilities (Gordon & Schuluz, 2020). Fortunately, the law mandated money be used for SWD had accessibility to regular CTE programs. For the first time ever, Mason, et al. (1989) reported CTE was to meet the needs of the students not of industry.

As CTE programs gained popularity, more acts and amendments followed. The Vocational Education Amendments of 1968 and 1976, which were renamed the Carl D. Perkins Vocational Education Act of 1984 (ACTE, 2019). CTE really began to be noticed with the Carl D. Perkins Vocational and Applied Technology Education Act Amendments of 1990. Until 1990, the Smith-Hughes Act had a tendency of keeping vocational instructors, curriculum, and students separate from other parts of the school organizations (Gordon & Schuluz, 2020). Brewer (2009) noted that vocational instructors were required with not only teaching academic skills, but also to guide students how to live and act in the workforce and society. The Perkins Act of 1990 provided ways for CTE programs and instructors to become more integrated with other parts of

the school community. Since 1990, CTE programs have been required to appropriately disperse funds, accountability for secondary students, and prepared students for the workforce of the future (Gordon & Schuluz, 2020).

President George W. Bush signed the Carl D. Perkins Career and Technical Education Act of 2006 containing additional improvements for CTE programs. More funding was approved in the amount of 1.3 billion for the Basic State Grant and Tech Prep. This act brought together concepts for CTE programs. The most recent act was the Strengthening Career and Technical Education for the 21st Century Act (Perkins V) (ACTE, 2019). The changes in the Perkins V were numerous. Educators were required to use data results to make decisions through an approved assessment process every two years. Also, states were given more authority in the state plans verses first having to work closely with the U.S. Department of Education. So, involvement of community stakeholders was increased by Perkins V. In CTE programs, concentrators must be chosen, and this act provided new guidelines for accountability. Eventually a strong emphasis was placed on serving special populations. This included homeless, and students with military parents on active duty. Additionally new guidelines for funds with SWD was included (Gordon & Schuluz, 2020). One last aspect provided was innovation and earlier programming accessibility. Perkins V provided career exploration funding for grades 5-8 with a new competitive grant program (Hyslop, 2018).

Federal Legislation of Education

Discrimination against various groups has been an issue in America for centuries. At one time, SWD either had no access to special services or was privately obtained. Finally in 1975, the Education for All Handicapped Children Act (Public Law 94-142) was signed by President

Gerald Ford. This act mandated SWD had free and appropriate education (FAPE), least restrictive environment (LRE), and mandated individual education plans (IEP) with strategies for students to meet success. Additionally, parents gained more rights to own child's academic records, to be informed of any changes, and dispute changes in placement or records (Ysseldyke & Algozzine, 2006).

The Education of All Handicapped Children Act needed improvements to accommodate the needs of SWD. The biggest change since 1975, came with the Individual with Disabilities Act of 1990 (IDEA). As society changed, more varieties of disabilities were diagnosed by educational and medical personnel. Therefore, IDEA included new disabilities categories to include autism, emotional disturbance, specific learning disability, and speech or language disability. Another mandate was a transition plan as part of the IEP for postsecondary plans for SWD. Transition plans allowed IEP team members to create developed goals for SWD after high school. Therefore, this plan was developed to provide students a smoother transition into the workforce. Another addition was SWD to be a part of the same curriculum as regular education students, with assistive technology as a resource (U.S. Department of Education, 2010).

During the same time special education was seeing changes, regular education was also seeing more mandates and legislation. Even though most would assume these changes did not directly affect SWD, this assumption was incorrect. Students with disabilities were under the umbrella of both types of mandates. The Elementary and Secondary Education Act (ESEA) of 1965 was reauthorized to be the No Child Left Behind Act (NCLB) of 2001. This act affected all students and changed the field of education in many ways. Basically, the two major objectives of NCLB were to raise expectations for all students to higher academic levels by utilizing early interventions and for teachers to be held accountable for student growth (NCLB, 2001, Public

Law 107-110). On an individual basis, the data was found by the students' scores on the state's proficiency exams. As a district, growth was found by looking at each school meeting of adequate yearly progress (AYP). The government had tied federal funding as related to the expected level of growth in achievement scores (Fletcher, 2006).

The aim of the NCLB Act (2001) was to increase the achievement level of students and close academic gaps analyzed data revealed (Flether, 2006). To achieve the goal, NCLB required various levels of accountability, which included highly qualified teachers and higher academic testing performance for students. NCLB mandated each student, including those with disabilities, obtain required scores on grade level standards. For the necessary passing scores, more rigorous tests for performance and higher graduation rates were expected (Kymes, 2004). Both students and teachers were required to make major gains to close targeted gaps.

With the NCLB mandates, valid concerns surfaced about the needs of SWD. This was a prime example how SWD had requirements under both the NCLB and the IDEA. With those aspects, inclusion of SWD increased the amount of time identified students were in the general curriculum. However, many times the regular education climate did not meet the academic or social needs of SWD (Cook & Rumrill, 2000). Educators were expected to create a balanced climate for SWD. Even though most SWD were not successful on assigned academic grade level, teachers were expected to meet students' IEPs, close the gap with on grade level standards, and prepare SWD for societal norms.

Until NCLB, special education students had been assessed on the growth of the individual goals written on the IEP and the Individual Transition Plan (ITP). With this act, SWD were required to show growth on age-appropriate grade levels through state proficiency tests. Hence, the validation of concerns for advocation of SWD. With scores tied to funding, students

could lose out on practical education, such as vocational education, just to attempt to gain a proficient score in academic programs (Goana, 2004). Additionally, Johnson et al. (2005) found NCLB created problems such as less SWD graduating high school with any type of diploma, issues of self-worth, and negative attitudes of students and parents. Due to higher stakes being placed on academic scores, programs like CTE were left out or not even considered, especially if the SWD were trying to achieve proficient scores (Fletcher, 2006).

With changes in education, there were positive and negative outcomes for SWD. Along with the problematic issues, some positive outcomes for students with special needs arose. One such positive outcome was the increase of SWD being placed in regular education classrooms for inclusion purposes (Cook & Rumill, 2000). Also, with NCLB the LRE became a focal point from the U.S. Department of Education. SWD were to be in classroom environments with age-appropriate peers as much as possible. By being in separate special education classrooms, students with special needs were not getting many of the social and behavioral skills needed to succeed in society. Cook and Rumill (2000) discussed the lack of not being in the LRE caused students to be segregated from peer social interaction and certain skills needed to be successful in the workforce. Although there were strong debates from both sides, ultimately this was up to the educators to find what worked for each child on an individual basis.

While educators still worked to make necessary changes to accommodate NCLB and SWD, IDEA was amended in 2004. The reauthorization of IDEA was to increase the understanding of appropriate education. Being termed the Individuals with Disabilities Education Improvement Act of 2004 (IDEIA) (Valentino, 2006). The mandates for free and appropriate public education (FAPE) and least restrictive environment (LRE) continued constants.

Due to necessity, more of an emphasis was placed on special education educators input and portions of the IEP, specifically the transition area. In the area of transition, SWD must be addressed and in effect by the age of 16 and addressed yearly. Transition assessments were administered to find SWD areas of interests. Additionally, SWD were an important, required part of the IEP team (U. S. Department of Education, 2017). The IEP team, including the student, developed transition services based on students' interests, strengths, and needs. Additionally, the team developed a plan of instruction and activities to meet the goals. IDEIA moved toward students' progress in various life stages rather than grade to grade achievement (Valentino, 2006).

Another improvement in IDEIA was the requirement of a summary of performance (SOP) for SWD who terminates under IDEA. The reasons for termination of services were graduates with a regular diploma or exceeded the age of eligibility. However, SWD still needed guidance to go into society and be successful. Therefore, the SOP provided recommendations based on academic and functional achievement for students to meet postsecondary goals. (U.S. Department of Education, 2017). Hence, CTE programs provided for positive transition services and working toward a SOP.

Another act that influenced CTE programs was Every Student Succeeds Act (ESSA) which took the place of NCLB. This act was to ensure all students had equal opportunities. Some of the highlights were equality for students who were disadvantaged and high needs, continuance of high standards availability, access to data from statewide assessment for all stakeholders. This act also provided funding and encouraged local innovations from educators involving local leaders and took actions to improve low performing schools (U.S. Department of Education,

2012). Incentives were provided to the states who included access to CTE courses in the curriculum.

One focus from ESSA was providing schools with strategies to improve career readiness in grades K-12. States were provided numerous opportunities to improve programs involving CTE. However, districts were not required to take advantage of ESSA's flexibility to create visions for college and career readiness. Some of the opportunities were professional development to combine academic and technical content, offer resources to close gaps in career paths, allowing public access to college and career readiness assessments, and more focus on transitions of students using CTE as a program of study (Education Strategy Group, 2017).

With the reauthorization of the ESSA law in 2015, states were to provide students access to a well-rounded education (Kim, 2021). Therefore, both state and local education agencies, had to coordinate plans for integration. So, ESSA called for CTE programs to be considered as important as the academic pathways. Even though other acts had encouraged academic and CTE coursework became more fluid, it was not until the ESSA where more incentives were provided for implementation. Fortunately, states were encouraged to report CTE assessment scores on the state report cards, just like other competencies. (U.S. Department of Education, 2012). With the ESSA, CTE programs became more of a focus, and this was an advantage for SWD.

Integration of Students with Disabilities in CTE Programs

All mandates and acts passed throughout history have led to increased equality in education for all students, no matter the social class, demographic group, or disability status. Hence, there was equality for success with integration of SWD. Kim et al. (2021) was the first literature review pertaining to CTE programs and equality. Consider, the United States was viewed as an unequal

society. However, in this study, “equal treatment does not require that education be identical, but they should be of equal worth” (2021). Consequently, all students were not created equally, so considerations were made on an individual basis. Some students, particularly those in low socioeconomic status or SWD, required more resource support and funding (Jordon, 2010; Kornhaber et al., 2014). Of all the groups studied, it was those two that required increased resources, so success was achieved (Kim et al., 2021).

Equality for CTE Programs

To achieve equality, the CTE programs provided educational adequacy. One way for accomplishments was to combine academic and CTE content in a rigorous, authentic way which included small-group instruction (Moyer et al., 2017), opportunities for real-life experiences, and some type of work-based learning (WBL) (Kim, et al., 2017). Also, some students required more resources for investment, especially those dealing with poverty or with disabilities (Jordan, 2010; Kornbaber et al. 2014). When SWD had better instruction and resources, these students were better prepared for living in a dignified nature. However, even with more equality, some barriers still existed. Casale-Ginannola (2011) found that CTE educators may not understand special education mandates or understand inclusion strategies. These strategies were crucial for students with SWD meeting success in any educational program. To continue to improve equality for SWD in CTE programs, the educators were trained and felt confident implementing needed strategies.

Education continually needed improvements in keeping curriculum, activities, and facilities to create equality. All programs needed a welcoming feel for SWD. When CTE programs were chosen by SWD, the inclusion process applied to those students. By implementing inclusion into CTE programs with SWD, NCLB and IDEA regulations were being met. With the increase

of SWD in the general curriculum, educators were required to create differentiate learning in the inclusive classroom (Green & Giannola, 2011). This included all educators, even those instructors in CTE programs.

All educators needed to have the required resources and knowledge to create a productive inclusive classroom. Casale-Ginnaola (2012) conducted a study pertaining to inclusion in secondary vocational classrooms. In this study, both strengths and weaknesses were identified. Of the participants, at least 20 were CTE instructors. First, where teachers established a strong student rapport was beneficial. Creation of a climate of respect and genuine concern, student learning became positive. Those beneficial relationships were found to be crucial for student success in CTE classrooms (Bolger, 2008). Another noted strength from CTE teachers was a strong passion and expertise of the content area teaching. CTE educators brought a sense of satisfaction and achievement due to the real-world experiences before education career (Casale-Giannola, 2012). Most all CTE instructors came from the industry to teach the skills from that career cluster. Additionally, SWD were drawn to CTE courses for the active learning opportunities and real-life career experiences. By providing opportunities for students to be actively engaged in learning skills, then long term retention was more likely. In CTE program completion led SWD to connections with workforce resources (Mastropieri & Scruggs, 2001).

Providing inclusion services in CTE programs had weaknesses as well. Many times, SWD lacked basic skills to build content skills in the CTE classroom. Consequently, CTE instructors lacked the knowledge of special education laws and issues. Therefore, for CTE to provide necessary instruction for SWD to be successful, educators needed training in ways to accommodate the CTE environment to the disability.

Regarding making accommodations and modifications as specified by individuals' IEPs, CTE educators must know the difference. Accommodations included a change in the curriculum format or specified equipment that helped SWD to pursue a regular source of study. However, modifications were when the curriculum needed to be changed for the SWD to meet success. For example, students with cognitive disabilities may not be able to fully comprehend, therefore needed amount or steps to be omitted. Requirements of CTE programs made placement of a SWD inappropriate according to Southeastern Community College v. Davis, 442 U.S. 397. The supreme court ruled the person with a severe hearing disability could not participate in the program of choice due to having to make too many modifications to the program. Therefore, in CTE courses, if significant modifications needed to be made, then this may not be the best placement. (Michigan Department of Education, 2009). CTE courses had many benefits for SWD, but certain prerequisite must be met before registering for CTE classes.

Equality in education equated to being included in general education programs. For SWD, especially at the high school level, meant being with peers helped acclimate to social norms. When students felt included and a sense of self-worth, then positive learning outcomes occurred. Successful CTE programs can provide this for SWD. However, CTE instructors needed to have the knowledge and resources to create and maintain inclusive classrooms for SWD.

CTE Educator Preparation

To fully implement equality in education, CTE teachers needed to be prepared to be effective educators. The federal Perkins IV made CTE teachers shift from student learning to student achievement. Therefore, with Perkins IV more professional development that was high quality, on-going, and required continuous collaboration impacted instruction and teachers

performances in the classroom (Sturko, 2015). More school districts provided intense teacher in-services with mentoring between CTE teachers and traditional teachers in school buildings. Throughout education, perceptions of vocational education were not held in as high esteem as academic teachers (Chen & Ney, 2020). With more mentoring and collaboration, perceptions were changed for the better.

Due to the federal change, states accommodated the CTE programs to be more inclusive for federal funding. So, changes were made in CTE teacher preparation and teacher retention improvement. The CTE teaching profession required competent and effective CTE teachers, yet it continued to face annual shortage of qualified teachers (McCandless & Sauer, 2010). Hence, states made changes in teacher requirements, some chose alternative programs. The National Center for Education Information (2003, 2010) cited states increased in these programs from eight in 1982 to 46 in 2003 and 48 in 2008.

The state of Michigan provided for one such program. Michigan Department of Education (MDOE) allowed industry personnel to teach with a renewable license called Annual Occupational Authorization (AOA). One of the requirements was for candidates to hold a bachelor's degree or above. However, this degree was not required to be in the field of education. Therefore, the hiring requirements were less stringent than other certification requirements for traditional educators. Requiring a postsecondary degree for uncertified CTE teachers was a major hurtle. In this study, many of the respondents did possess a bachelor's degree or above but were required to get a vocational certificate (Stephen, 2015). Jaques and Potemski (2014) reported that when state requirements for vocational certification included bachelor's degree many CTE programs suffered because of teacher shortages.

The state of Tennessee offered an alternative CTE teacher preparation too. Those with industry expertise that desired to move to into education can apply for a practitioner occupational teacher license. The applicant was required to have a high school diploma or equivalent. The Tennessee Department of Education (TDOE) approved an initial practitioner occupational teacher license with career and technical verification in field with proper documentation. New CTE teachers were required to complete new teacher training and enroll in an educator preparation program. This license had 3 years of validity and only renewable once (TDOE, n.d.).

For further advancement of the CTE teaching license, teachers completed the educator preparation program consisting of 12 college credit hours. Additionally, teachers passed the required standardized tests, obtained 30 hours of professional development points or a recommendation from the director of schools, and maintained industry certification. While obtaining three years of qualifying experience, the CTE teachers completed four observations of experienced CTE instructors. Upon submission to TDOE, the CTE teacher advanced to a professional occupational license which was good for six years (Tennessee State Board of Education, 2021).

In either of the states discussed, there is no indication of training with SWD as part of the initial process. Michigan's teacher certification code did not mandate an induction process that included strategies to prepare AOA teachers to work with exceptional learners (Stephens, 2015). Bersudskaya and Cataldi (2011) reported students with IEPs comprise more than 10% of the class membership. However, there was no training in place for Michigan's AOA teachers to learn how to develop effective instructional lessons, activities, or assessments to incorporate the needs of those students. Furthermore, no major changes in this code for AOA teacher has happened in the last 25 years (Stephens, 2015).

With the program in Tennessee, the college courses vaguely touched on working with SWD. Many states provided crash courses which touched on educational theory and methods over a brief period. During the first years of teaching, new CTE teachers can become overwhelmed by the daily requirements of teaching, but also completing licensure coursework. The additional responsibilities of educating a class with a higher number of students from special populations can be daunting (Haber & Sutherland, 2008). Harvey's (2003) study showed that CTE teachers felt less effective and confident in educating SWD than the administration perceived. In addition, many students shared a common negative attitude toward SWD and felt no support from teachers or administration. However, more in-depth study of strategies and procedures to help SWD to be successful was not found in the research either.

Benefits of CTE for Students with Disabilities

For a period in education, all students were heavily encouraged to attend college. Not all students had a desire to attend college but had a goal to acquire skills for a career. With the passage of ESSA, a more equal focus was being placed on technical skills through CTE programs. SWD were finding a place to belong, to become successful in the workforce, and lived independently. Most all young adults had a dream which included living a dignified life. With practical life skills and career readiness programs, this was inherently possible.

CTE and Real-World Application

Career and technical education provided SWD career options within students' reach. Students focused on a career cluster of interest and began to learn trade skills. Those skills prepared students for the adult workforce. By working toward a specific area of trade, students were not just obtaining a generic high school diploma. In CTE programs, SWD were given

instant opportunities to explore career interests (Casale-Giannola, 2012). Additionally, students obtained practical awareness about the skills and behaviors to work in industry (Powell, 2017).

W was one of the main focal points in providing SWD real-world experiences through CTE courses. Since 1985, research had continually showed that SWD participating in work-based learning experiences (WBLEs) were likely to show success (Carter, et al., 2011). Cook (2015) considered career exploration, job shadowing, job sampling, service learning, internships, apprenticeships, and paid employment as examples of WBLEs. Through WBLEs, SWD learned about different career areas and discovered the type of work where passion was experienced. Additionally, students figured out which supports were available and became advocates for self and others with disabilities.

Career exploration and job shadowing were two ways CTE programs gave students real-life experiences. With career exploration, SWD took an interest inventory, which was included in transition plans. But there were many activities to gauge career interests such as: attended career fairs, helped students interview employers, and made frequent connections between academic standards and career and life applications (Cook, 2009). With job shadowing, students spent a day with a person performing a job. This activity provided opportunities to gain onsite knowledge about the workforce. Completed activities identified SWD possible job interests, then focused on that identified field. So, this helped SWD find an area to be successful and planned for other CTE courses to register.

Another hands-on experience was internships provided through CTE programs. Internships were “formal agreements whereby a youth was assigned specific tasks in a workplace over a predetermined period. Internships may be paid or unpaid depending on the nature of the agreement with the company and the nature of the tasks” (Luecking, 2009, p.9). This type of

placement was beneficial to SWD due to many were unemployed or have longer search time for job in a field of interest (Johnson, 2000). Hence, internships helped bridge the gap for students transitioning from high school to workforce by providing opportunities to gain skills and helped to understand how the disability affected career choices (Serverance & Starr, 2011).

Internships did not stop with the employer. Career and technical education instructors played a crucial role for the SWD to meet success, with communication as a key factor. These teachers regularly reviewed the internship agreements and collaborated with SWD, school counselors and other teachers (Cease-Cook, 2015). Also, SWD were required classroom time during the internship placement. Journals and reflective paragraphs provided opportunities for SWD to focus on personal and professional improvements. Classroom discussions included issues due to disability, information pertaining to confidentiality, sexual harassment, or civil rights issues (Serverance & Starr, 2011). Internships were a terrific way for SWD to experience real-life job opportunities and allowed for reviewing any issues in the comfort of the CTE classroom climate.

Another possibility for SWD to get real-life work experiences while in high school was through apprenticeships. “Apprenticeships are formal, sanctioned work experiences of extended duration in which an apprentice, frequently known as a trainee, learns specific occupational skills related to a standardized trade, such as carpentry, plumbing, or drafting. Many apprenticeships also include paid work components (U.S. Department of Education, 2017). Traditionally, apprenticeships were one year in length and only offered during last year of high school. In 2012, the U.S. Department of Labor allowed these programs to be competency based instead of time specific. Additionally, the recommendation was a minimum of 144 hours of standard instruction in the CTE classroom.

CTE programs, SWD, and employers benefited through apprenticeships. CTE instructors guided SWD through career clusters to find which registered apprenticeship best fit. Many employers liked to grow the employees from an early age. The TN Department of Labor & Workforce Development (n.d.) discussed how employers got some of the best employees through this type of program. The retention rate after completion of an apprenticeship is 94 percent. Therefore, this shows when students worked through an apprenticeship program had the exposure to a lifelong career.

Students with disabilities needed access to real-world experiences before entering the workforce post high school years. CTE programs were an asset to students by the many avenues of work experience. Working on career exploration and finding employment interests was important for success. Then, through different activities and programs SWD grew and became productive citizens of society.

Career Development and Transition

When SWD were included, had a sense of purpose, and got access to real-world experiences, then career development and transitioning into society as adults was easier. CTE educators, along with others, were especially important in building bridges to close the gaps between high school and postsecondary life. Many students become disengaged with school due to being behind in courses or felt that school has no benefit (Marks, 2000), however, enrolling in CTE courses increased early interest and engagement in school (Reiser, 2004). Students who dropped out of high school often do not acquire the skills needed to access the high skill and wage workforce. Hence, the students were limited and end up living in poverty. Not only are

students affected, but society as well. By educators working together, SWD became vital to society (Harvey, 2001).

High School Completion

Special education legislation emphasized educating SWD to be successful in postsecondary life. There are options for SWD to obtain several types of secondary diplomas. Graduating with a standard diploma, if possible, was the chosen route. However, 55% of SWD graduated with this type of diploma (Data Accountability Center, 2018). When reviewing the 41st Annual Report to Congress, there were statistics compared between 2007-2008 and 2016-2017 school years. This report showed SWD decreased in high school dropout rate from 24.6 % to 17.1%. Even though this showed improvements, those students with specific learning disabilities dropout rate were 16.7%. This rate was close to the percentage of all SWD. Additionally, students diagnosed with an emotional disturbance dropout rate was more than 30%. (U.S. Department of Education, 2019). Part of the ESSA provided resources across several years for improving graduation rates for all students. Therefore, ensuring SWD access to CTE programs and instructors who were trained helped with continually decrease the dropout rate. Theobald et al. (2019) found that students with learning disabilities who had CTE concentration and inclusion showed a 3 to 4 percentage point increase to graduating on time in comparison to an 11-percentage point gap.

Employment

Obtaining gainful employment was important for SWD. However, this was an area that needed addressing through CTE programs. According to the U. S. Bureau of Labor Statistics (2018), for individuals 16 and older, only 18.7% of the individuals with disabilities were

employed compared with 65.7% of those without disabilities. Additionally, Hinz et al. (2017) found that 48% of SWD registered in a 4-year institution, 26% in an associate's program, and only 1% went to a technical school. To address these gaps, SWD and CTE courses were considered. Dougherty et al. (2018) found that students enrolled in CTE courses were likely to have positive outcomes after graduating from high school. Also, inclusion and CTE concentration showed an increase in 2.8 to 4.2 percentage points increase in employment (Theobald, 2019).

Transitions with CTE Programs

With IDEA in 2004, transition services for SWD were mandated to be a part of the IEP. Beginning when the student is 14 years old, a statement in the IEP of transitions services that was accessible to SWD. When SWD were 16 years or older transition for postsecondary readiness, related goals, and detailed graduation options were included in IEPs (TN Department of Education, 2018). The Strengthening Career and Technical Education for the 21st Century Act allowed for educators to consider CTE courses as part of the required transition plan (Harvey et al. 2020).

An annual meeting for SWD was to develop a current IEP for the upcoming school year. With secondary students, the IEP included transition services, goals, and note responsible party of implementation of the transition assessment. At the IEP meeting the team included the parent, one regular education teacher, one special education teacher, a representative of the public agency, usually administrator, and the student, when appropriate. One requirement at the secondary level was for SWD be attendance or the IEP reviewed with the student. Regarding transition, an outside agency may be represented, if responsible for paying or providing

transition services (U.S. Department of Education, 2017). Although not required, the CTE instructor needed to be in attendance when SWD were in the CTE classroom.

For smooth passage from secondary school to post-secondary of choice, transition implementation was required. Wagner et al. (2016) reported that most SWD leaving high school were not prepared to enter competitive employment, despite 56% of students having employment goals included on the IEP. Also, traditionally, SWD did not take classes that prepared SWD with needed skills and competencies needed to be prepared for industry. However, the number of effective CTE programs were encouraging SWD into high demand career choices were becoming change agents (Schmalzried & Harvey, 2014). This encouragement was partly coming from CTE courses being part of students with disability program of study and on the IEP.

Collaboration and Communication

Regardless of the laws implemented, the most effective way for success included effective communication and collaboration between personnel who worked with SWD. Both collaboration and communication were important, but teacher attitudes in the classroom towards SWD was equally crucial. Rojewski (1990) found that CTE educators' attitudes and perceived effectiveness concerning personnel working with SWD had a direct relationship on students' successes. Working together was the only way for SWD to meet success. DeFur and Taymans (1995) defined four components needed for educational collaboration:

1) All individuals had an understanding of local resources
2) All involved needed to have skills and a willingness to work with various people, collectively
3) Individuals were willing to share what each brought to the table

4) Individuals needed to accept responsibility for the decisions made by a collaborative group and be accountable for their part. (p.40).

Teaching SWD had instructional challenges for CTE educators to address. Therefore, it was important for CTE instructors and special education teachers to work together to meet students' needs in the CTE classroom (Wonacott, 2001). Both groups need to provide respective expertise and information to use collaboratively (Schmalzried & Harvey 2014). Wonacott (2001) discussed CTE teachers needed to know the rights of SWD, how to plan, and the role CTE played in making accommodations for students' needs. Many times, CTE instructors were not required to take classes emphasizing strategies for SWD. Therefore, special, and regular education teachers mentored CTE instructors when appropriate (Haber, 2008). More collaboration and communication meant more success.

Haber and Sutherland (2008) stated most effective placement decisions for SWD was for CTE instructors be actively present at the IEP meeting. The National Center on Secondary Education and Transition (NCSET, 2009) found only 40% of CTE teachers participated actively in the transition planning process for SWD who enrolled in CTE classes. Harvey et al. (2020) emphasized the teachers involved need to develop a type of fluid communication on a regular basis. Also, educators shared progress monitoring data that helped with planning. Working together as a team provided communication which continued to provide for a successful classroom environment.

There was a lot of focus on CTE educators involvement in the development of IEPs and transition plans. However, another key factor was regular educators had a solid knowledge of CTE programs, requirements, and outcomes. The Michigan Office of Career and Technical Education (2009) reported that special education teachers often did not understand the concepts of CTE

programs, which led to issues for students. Harvey et al. (2020) discussed those involved in making decisions on placement understood the requirements of CTE programs before making those recommendations. An example was a student required to pass Occupational Safety and Health Administration (OSHA) requirements to proceed in the class. If SWD were unable to meet success, then other options were needed to be considered. Therefore, for SWD to have success collaboration and communication was a two-way street. To increase student success, the two educational fields needed to form a connected, working relationship (Michigan Department of Education, 2009).

Summary

Education has evolved for centuries in the United States. In the early years, only those thought to be most capable were educated. Now, all individuals were provided an opportunity for an education. The evolution of the education process was due to the changes in legislation and mandates throughout societal changes. Additionally, those changes were different state to state, but the basic concept was the same for all students be provided with the best education possible.

The literature showed SWD benefited from CTE programs. Since CTE instructors preparation was different from traditional educators, this was an area of concern. CTE instructors not only needed strong, professional trainings, but those educators needed active vocal involvement in the planning of SWD. The team developed goals for the SWD in the school setting, but also so that independence and societal needs were met. The result was SWD became productive citizens to society and the economy.

With proper preparation, CTE teachers developed positive attitudes and successful strategies to implement in the classroom. Some of these practices utilized was the inclusive classroom, meeting transition goals, small group instruction, or WBL. Career and technical

education educators needed to be connected to all stakeholders. Indeed, a strong cohesive team needed to be formed for SWD, but also for support of CTE programs.

As teams were created communication and collaboration was a continuous process throughout the enrollment of SWD. The literature showed this was also an area of breakdown. However, this can be changed so SWD complete high school, obtain gainful employment, and those successful students came back to the programs to share successes. When SWD became successful, the CTE teachers had a sense of fulfillment. Success developed through continuous training, improving education for CTE instructors, and building strong relationships led to accomplishments for SWD and educators.

Chapter III: Methodology

Overview

The purpose of this chapter was to identify the research methodology used for this quantitative study. Chapter III researched the purpose of the study, described the participants, and clarified reviewed literature that supported designed research questions. Additionally, the data collection procedures were explained, along with how the data was analyzed. All the research and data collection came together to identify gaps, make any improvements, and share with other professional for improvements within education.

Research Design

The foundation for this research design was based on the conceptual framework for career and technical education (CTE). Rojewski (2002) reviewed past educational conceptual frameworks but felt no framework reflected CTE. Miller (1996) shared that acceptable conceptual framework consisted of principles and philosophy. In the CTE conceptual framework, pragmatism was the predominant philosophy in CTE due to purposes included life preparation and learning built on prior knowledge. Through years of research, influences of historical traditions, impacts of educational reform, ideals of a changing economy, and the direction CTE needed to expand, were the areas Rojewski used to develop a CTE conceptual framework (Figure 1). This framework encompassed internal and external influences. All of which was used in the development of the research questions. External influences included economy, school reform, student achievement, and public expectations in this framework. Internal influences in the CTE conceptual framework were student assessment, student populations, curriculum, delivery options, philosophy, and program evaluation.

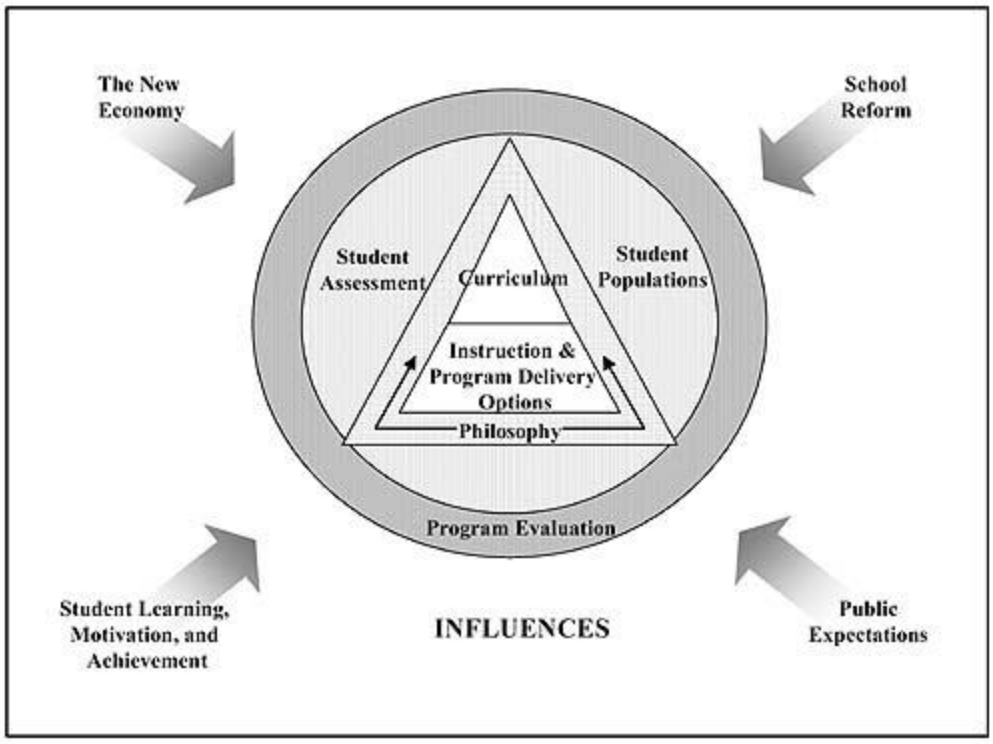

FIGURE 1. *Conceptual framework for career and technical education*

Schmalzried and Harvey (2014) found concerns pertaining to improving efforts for CTE teachers and other school personnel to prepare and communicate with special education programing dating back to a study in 1988 by Okolo and Sitlington. Even with changes in the Perkins Act and Disabilities Education Improvement Act (IDEIA), more work was required for students with disabilities (SWD) to meet success. The Perkins Act of 2006 focused on the necessary preparation of students for postsecondary workforce, which included those with disabilities (Brustein, 2006). The IDEIA mandated all SWD by age 16 have transition services as a part of the IEPs (IDEIA, 2004). Those services and goals were designed for SWD to transition effectively into postsecondary outcomes. However, for SWD to meet success, CTE instructors needed an invitation to meetings and given copies of IEPs. Since SWD fall within the student populations in the framework, then CTE educators needed IEPs and involvement to meet student

learning, covered curriculum, and student assessment. Mastering IEP goals, especially transition goals for high school students, was one-way SWD were assessed.

Data from other studies showed benefits for SWD who participated in vocational education. Referring to a National Education Longitudinal Study from 1980-1994, Harvey (2002) reported SWD who "participated in CTE had a 10% higher postsecondary employment rate compared to those who did not participate." Wagner (1991) found SWD were 13%-48% more likely to be gainfully employed when CTE had been part of the high school curriculum than those not enrolled in CTE courses. In addition, Wonacott (2001) found SWD were able to obtain and maintain competitive jobs when CTE courses were program of study. Hence, the need for CTE instructors to collaborate with other stakeholders, especially those in industry and the community. Collaboration with stakeholders addressed the economy and the pragmatic philosophy part of the framework (Rojewski 2002) by utilizing work-based learning (WBL) or other practices to build on experiences outside the CTE classroom and had real-world experiences. Therefore, SWD was a part of the competitive workforce that was growing daily.

Since transition services and goals were required, CTE programs showed logical pathways for SWD to be successful. By building transition plans around CTE courses, individual student interests, and current labor market needs, SWD entered the workforce better prepared (Harvey, 2001a). For SWD achievement, CTE instructors needed specific trainings and in-service on how to implement goals and accommodations written in IEPs. This encompassed CTE instructors incorporating the CTE curriculum into the goals for SWD through proper instruction and delivery options.

In describing the research design for this study, quantitative research was used for the maximum benefit. A survey was developed for participants to respond. The purpose of this

design was to show ways to improve the effectiveness of education for SWD in CTE programs. The research design hinged on the responses of CTE instructors. Within this design, simple random sampling was being implemented. This type of sample was used "where all the participants have an equal and independent chance of being selected in the sample" (Stern, 2016).

Purpose of Study

The purpose of this study was to investigate how CTE teachers view involvement in the process of individual education plan (IEP) meetings, how special education information was obtained, the implementation of IEPs, and communication with stakeholders. Many CTE teachers did not go through traditional educator preparation programs, therefore there was a lack of knowledge how to meet the needs of SWD. Therefore, these CTE instructors were placed in classrooms with little to no training in dealing with typical secondary age students, much less those with disabilities. Haber and Sutherland (2008) noted a high number of SWD enroll in CTE courses. Furthermore, Wolfe et al. (2000) found only 33% of states required course work in transition plans for SWD. Consequently, the concern that CTE teachers were not equipped to feel successful when working with SWD.

Regarding CTE instructors' involvement in the IEP process, the literature did not reflect a positive light. Extending invitations to IEP meetings to CTE instructors was needed for multiple reasons. The educator not only gained information about SWD, but shared requirements for success in the CTE classroom. Often, CTE educators were not included or present at IEP team meetings. By not attending, CTE instructors lost the chance to share vital information about the CTE program and crucial information about the SWD was not conveyed. Unfortunately, in other

instances the CTE instructor was not made aware of students' IEPs (Michigan Department of Education, 2009). Due to this need, the study conducted surveyed IEP involvement, attendance, and ways crucial information was conveyed to CTE instructors.

Once CTE educators were hired, then the proper supports must be provided. Administrators needed to inquire about training in working with SWD. Harvey (2001) found teachers, including CTE teachers were not shown effective ways to assist SWD and nor were fully aware of SWD needs and how best to accommodate those needs. Due to lack of training, CTE teachers did not have knowledge that CTE teachers had a voice to advocate for SWD. So, to investigate this, specific in-services and trainings were surveyed.

Lastly, the perceptions of CTE instructors' responsibilities of working and communicating with stakeholders to benefit SWD in CTE programs was surveyed. By collecting this data, this study gaged the attitudes toward working together for the success of SWD. When CTE instructors worked with SWD entire support group, which includes those inside the education realm and the workforce success was more likely to be achieved. Not only does the CTE instructors and special education teachers and other school personnel need to work as a team, but connections with local labor needed and industry standards for gainful employment (Scholl & Mooney, 2003). Therefore, this study showed possibilities for improvements and directions to gain more knowledge into this topic.

Research Questions

Research question one As CTE instructors, how and by whom do you obtain an Individualized Education Program (IEP) of students with disabilities in your classrooms?

Research question two In what ways are CTE instructors invited to IEP meetings for current or future students with disabilities? How often do CTE instructors attend IEP meetings?

Research question three How are CTE instructors provided with in-service or training sessions regarding how to implement goals and accommodations in IEP for students with disabilities?

Research question four What are the perceptions of CTE instructors for their responsibility in collaborating with stakeholders for students to meet success in CTE programs?

Descriptions of Participants

The participants in this study were current secondary level CTE teachers in the state of Tennessee. To obtain data, 135 email addresses for CTE directors were acquired. Districts had different varieties of CTE programs. Many of those programs depended on the type of area in which the district was located. All the participants teach in one of the areas offered through the Tennessee Department of Education; these programs include advanced manufacturing, agriculture, food, and natural resources, architecture and construction, arts, audio/visual technology and communications, business management and administration, education and training, finance, government and public administration, health science, hospitality and tourism, human services, information technology, law, public safety, corrections and security, marketing, distribution and logistics, STEM, and transportation (TN Department of Education, 2020).

According to the US Bureau of Labor and Statistics (2020) there were 2,270 CTE teachers employed in the state of Tennessee. There were 147 public school districts (TDOE, n.d.) in Tennessee with 135 of those having current CTE programs. All these district CTE directors were contacted by email, found in Appendix A, about participating in this study. Referencing licensure, the participants involved in this survey held an educational license, an occupational

practitioner or professional, or were on a waiver from the TDOE with required documentation. Experience for each participant ranges from less than one year to 20 plus year.

The participants in this study did not include CTE educators from other states, even ones who may live in Tennessee but worked in adjoining states. Another possible group not included was retired CTE teachers who were on a 120-day contract. Additionally, any current student teachers in the field of CTE were not eligible to complete a survey.

Description of Instrument

The instrument for this study was in the format of a survey using Qualtrics program. Qualtrics was a well-known and respected product in the field of research. This program was useful for data collection, analysis, and visualization of surveys and questionnaires. Additionally, Qualtrics was a web-based survey tool used in all areas of research, especially the field of education (Qualtrics, 2022).

Since Qualtrics was web-based, all communication was emailed to participants. Initial contact was made with CTE directors. Therefore, the survey came from the director of the respective district to the participants. This prevented the survey instrument from being blocked by any firewall protection.

The survey was divided into five sections (Appendix A). Section 1 gathered demographic information, section II reflected how CTE educators received information, section III covered IEP team involvement, section IV showed implementation, and section V shared perceptions of collaboration. Each section contained statements for participants to rate. In addition, some sections had open ended questions to evaluate.

In the first section the survey collected demographic data including gender, age education level, position, years in current position, and years in education. In relation to position, respondents provided which CTE program cluster currently teaching. In this portion, respondents were asked which grand division participants taught. Tennessee was divided into west, middle, and east. All this information was used as a summary of the variety of the population.

The second section contained survey statements pertaining to how CTE educators receive information. Respondents were given sentences as I am statements. This section had a 4-point Likert scale (1- strongly agree, 2- agree, 3- disagree, 4 strongly disagree) for the statements and only one can be chosen. The following was included in the portion of how CTE teachers obtain information about students with disabilities 1.) I am given a fully complete IEP. 2.) I am given an IEP at-a-glance. 3.) I am sent an email with informal information. 4.) I am given nothing. Regarding whom conveys this information, the following were contained in the survey. 1.) I am given information from special education teacher. 2.) I am given information from guidance counselor. 3.) I am given information from administration. 4.) I am not given information. This information collected looked at the pattern of communicating information.

The third section pertained to IEP involvement of CTE teachers for students who had enrolled in class. The participants had eight statements with a 4-point Likert scale and one open-ended question. Statements were along the following styles. 1.) I receive a hard copy of an invitation to an IEP meeting. 2.) I receive an email inviting me to the IEP meeting. 3.) I receive a phone call inviting me to an IEP meeting. 4.) I am not invited to IEP meetings. Also, this part had an open-ended question about preference to being notified. As part of this section about attendance was four statements to rank. 1.) I attend all meetings possible in person. 2.) I attend all meetings possible by phone conference 3.) I only attend meetings when informed there is a

possible issue. 4.) I do not attend IEP meetings. These statements were used to collect data pertaining to IEP involvement and attendance in meetings for SWD.

The fourth section covered the realm of training for the implementation of an IEP consisting of transition goals and accommodations. This section consisted of four raking statements and one open ended question. 1.) I am required to attend specific training on how to implement the transitional goals and accommodations of an IEP. 2.) I attend optional trainings offered by my district pertaining to implementation of an IEP. 3.) I attend training from my district's special education department. 4.) I do not get any type of training concerning implementing IEP goals. 5.) What could be put into action to increase your understanding of the IEP implementation process? All these statements were analyzed for data covering this section.

For the final part of section 5, the topic of collaboration was surveyed. There were four ranking statements for this section. 1.) I take the initiative to meet with special education teachers about best practices for students with disabilities. 2.) I communicate with outside agencies to meet transition goals for students with disabilities. 3.) I meet with students and parents to develop a plan for how my program can best meet their needs. 4.) I do not meet with any of the stakeholders pertaining to students with disabilities in my CTE program.

In conclusion, this survey instrument was distributed to the CTE directors, who then forwarded to CTE educators. Once the survey date had closed, analysis of the data began. The results were documented and shared in various charts and narrative forms. Results from this study was shared with the CTE directors in the hopes changes were made to increase success for SWD.

Pilot Testing

To ensure the research questions were of excellent quality, a pilot test was conducted. Before entering the quantitative research across Tennessee, a small portion was surveyed to verify the right questions were being asked for answers to the research questions. For the pilot, four administrators were asked, by email, to participate. Each one responded with an email of agreement to be involved and give necessary feedback.

All administrators in the pilot test had experience supervising CTE instructors and SWD. One participant was a superintendent with a background as a building principal and CTE director. Another was currently a principal and CTE director, with a background as a CTE instructor. Next was a high school building principal with a background an assistant principal and teaching high school courses. Lastly, was an assistant high school principal with experience teaching special education at the high school level. All participants had some type of direct instruction to CTE instructors and dealt with SWD and involvement in the IEP team process.

Each administrator responded with positive remarks. The only suggestions were in some grammatical and professional wording to increase the flow of the questions. All stated an understanding in the questions and expectations of the research questions. After the feedback on the research questions, then the survey was sent to check for alignment between the research questions and the survey statements or questions. Again, the survey gained positive feedback, except with some wording issues for more fluid comprehending.

Data Process and Security

Before research began, institutional review board (IRB) approval was obtained on February 28, 2022 (Appendix B). During the reviewing process, this research was determined to

be a level 1. In this study there was no deception, any potential harm to the subjects, or lead to personal harm. Additionally, none if the participants were minors, prisoners, diminished mental capacity, or in a residential program (Murray State University, 2020). Therefore, this study was approved for the basis of a level one.

In this study, all data was kept on a password protected computer. In the event hard copies were made, those were kept in a locked secure location. The survey did not contain any identifying information that was communicated through Murray State University electronic mail. This researcher had no direct communication with the CTE teachers surveyed. All communication was with the CTE directors of the participating districts.

Procedures

Upon IRB approval, research into this topic began in a timely manner. With the emails of all the CTE directors in Tennessee, the first email was sent out. During the first round of emails, it was discovered Tennessee school systems were on various schedules for spring break. Hence the need for the email to be strategically planned for when systems were in session. This also caused the collection time to be extended. As replies came, a log was kept in a secure location. This first email was asking if the CTE directors were willing to participate (Appendix C). On the ones who accepted a follow-up email was sent with an active link created through Qualtrics (Appendix D). After five days with no response, a reminder email was sent (Appendix E).

During this collection time, the research fielded questions from CTE directors. Many inquired if the results would be shared, which was the plan. Some systems did not allow the CTE directors to forward the survey to teachers. In those cases, another supervisor sent the paperwork to be completed for approval. Then it was up to the researcher to complete the forms, return, and

wait for approval and guidance to proceed. There were a few systems that just declined with no explanation, others had already exceeded the number of surveys for the year, and some never replied to the emails.

Data Analysis

Implementing a quantitative study, this research developed a survey pertaining to uncovering information about CTE teachers' knowledge and experience when working with SWD. During the pilot testing was where adjustments were completed. This survey contained five sections: demographic information, receiving information, IEP team involvement, implementation, and collaboration. Beginning with section two, the statements were ranked using a 4-point Likert scale. Additionally, there were two fill-in the blank questions.

The data collected from the survey process was analyzed using tables produced by Statistical Program for Social Services Software (IBM Corp, 2020). Then results were captured on an Excel spreadsheet and a SPSS document. By using the SPSS, the Likert data was reproduced through frequency and percentages. All Likert statements were shared in graph form. The fill-in the blank questions were also on a spreadsheet to be evaluated by the researcher in finding similar answers.

Summary

To research connections between CTE teachers and SWD was not only interesting but was imperative in finding opportunities for the benefit of SWD. Simple, random sampling was used and then analyzed for current data. As the researcher examined the results, added information became clear. Chapter IV reports the finding from the research then described how those findings correlate to the research questions.

Chapter IV: Findings and Analysis

Overview

The purpose of this study was to investigate the preparation to involvement of career and technical education (CTE) instructors when working with SWD. To maximize success for students with disabilities (SWD), CTE teachers needed knowledge and active involvement. This study would not only reveal valuable information for SWD, but also to CTE instructors. In this study, descriptive and inferential statistics were used to analyze data. These included frequencies, percentages, analysis of variance (ANOVA), and Tukey. The analysis of this data was analyzed using SPSS 24.0. (IBM Corp, 2020).

Frequencies were completed first to reveal a basic idea of the direction of the data. Then an ANOVA test was used to find the statistically significant discrepancies. The ANOVA test was helpful for testing two or more independent variables against a single dependent variable. When the means were found different, then further testing was needed to explore how the variables differed. Therefore, the Tukey Post Hoc was used to find specific significant discrepancies. The Tukey test used pairwise comparisons to analyze the results (Yockey, 2018).

Chapter IV provided the results of the completed survey and the analysis of the gathered data for this topic. Due to limited research in this area, this study could reveal some important implications. By using the data collected, the overview of the research was shared in this section. The data was presented in the following sections: demographic results, overview of research question data, research question one data, research question two data, research question three data, research question four data, any additional findings, and a summary. A generalization could

be made for all CTE teachers in the findings of chapter IV (Creswell, 2015). All data was collected through an active link disturbed through email.

Demographic results

The demographic data was presented as follows in this section: gender, age range, education level, years in education, years in industry, and location of division in Tennessee. This survey was distributed by CTE directors to current CTE educators. Those completing the survey were not required to participate.

Number of participants

The exact total number of participants who received the survey link was unknown. The CTE directors in Tennessee did not share the number of CTE instructors each distributed this survey. Additionally, once the CTE director sent the link, the CTE educators chose whether to participate. There was a total of 229 survey results returned for data collection. However, some chose not to answer every question in the survey.

Gender and Age

Participants were asked to disclose gender of choice. The gender findings were as follows: male (n=100; 46.1%), female (n=115, 53.0%) and those who preferred not to say (n=2, .9%). Of the 229 respondents, 12 chose not to answer this question. In reference to gender, CTE teachers in Tennessee were closely aligned. See table 1.

Table 1

What is your gender?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	100	43.7	46.1	46.1
	Female	115	50.2	53.0	99.1
	Prefer not to say	2	.9	.9	100.0
	Total	217	94.8	100.0	
Missing	System	12	5.2		
Total		229	100.0		

In age range, respondents chose the age range that best fit current age of participants. The choices were in the range of years 20-29, 30-39, 40-49, and 50+. The results showed 20-29 years (n=13, 5.7%), 30-39 years (n=40, 18.4%), 40-49 years (n=63, 29%) and 50+ (n=99, 45.6%). Pertaining to age range, 50+ was significantly above all the other age ranges. See table 2.

Table 2

What is your age range?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	20-29	13	5.7	6.0	6.0
	30-39	40	17.5	18.4	24.4
	40-49	63	27.5	29.0	53.5
	50+	99	43.2	45.6	99.1
	Not specified	2	.9	.9	100.0
	Total	217	94.8	100.0	
Missing	System	12	5.2		
Total		229	100.0		

Education level

Of the respondents, 217 answered the question about present education level. The education degree chosen the most was bachelor's degree with 82 selecting this degree (n=82, 37.8%). In second was 62 with a master's degree (n=62, 28.6%). The other respondent results were as follows: high school diploma or equivalent (n=7, 3.2%), associate degree (n=19, 8.8%, occupational certificate (n=25, 11.5%), PhD or EdD (n=11, 5.1%). Also, all participants who answered other on educational level responded with an educational specialist degree (n=11, 5.1%). See table 3.

Table 3

What is your education level?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	HS Diploma or Equivalent	7	3.1	3.2	3.2
	Associates Degree	19	8.3	8.8	12.0
	Occupational Certificate	25	10.9	11.5	23.5
	BA/BS	82	35.8	37.8	61.3
	MA/MS	62	27.1	28.6	89.9
	PhD/EdD	11	4.8	5.1	94.9
	Other:	11	4.8	5.1	100.0
	Total	217	94.8	100.0	
Missing	System	12	5.2		
Total		229	100.0		

Years in education

Regarding the number of years working in education, 216 of the 229 participants chose to answer this question. The closely aligned results which were as follows: 1-5 years (n=49, 22.7%), 6-10 years (n=40, 17.5%), and 20+ years was (n=47, 21.8%). See table 4.

Table 4

How many years in education?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1-5	49	21.4	22.7	22.7
	6-10	40	17.5	18.5	41.2
	11-15	46	20.1	21.3	62.5
	16-20	34	14.8	15.7	78.2
	20+	47	20.5	21.8	100.0
	Total	216	94.3	100.0	
Missing	System	13	5.7		
Total		229	100.0		

In comparison, the question pertaining to time with industry was more scattered. Of the 229 respondents, 205 chose to answer. The two categories closest were 1-5 years (n=61, 29.8%) and 20+ years (n=65, 31.7%). The others were as follows: 6-10 years (n=35, 17.1%), 11-15 years (n=26, 12.7%) and 16-20 years (n=18, 8.8%). See table 5.

Table 5

How many years in industry?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1-5	61	26.6	29.8	29.8
	6-10	35	15.3	17.1	46.8
	11-15	26	11.4	12.7	59.5
	16-20	18	7.9	8.8	68.3
	20+	65	28.4	31.7	100.0
	Total	205	89.5	100.0	
Missing	System	24	10.5		
Total		229	100.0		

Grand divisions of Tennessee

Tennessee was divided into three grand divisions of west, middle, and east. Those divisions vary in population, workforce, and geographical landscape. The most participants came from west Tennessee (n=98, 45.2%). The respondents from middle (n=61, 28.1%) and east (n=58, 26.7%) were remarkably close in number. There were twelve people who chose not to answer this question. See table 6.

Table 6

In which grand division of TN do you teach?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	West	98	42.8	45.2	45.2
	Middle	61	26.6	28.1	73.3
	East	58	25.3	26.7	100.0
	Total	217	94.8	100.0	
Missing	System	12	5.2		
Total		229	100.0		

Current position

The question pertaining to the participants current position was posed as a fill in the blank. They were not asked to be specific on this question. The researcher ranked them according to the career cluster of the courses identified. The current positions were as follows: Advanced manufacturing (n=8, 3.1%), agriculture, food and natural resources (n=7, 3.0%), Architecture and Construction (n=3, 1.3%), business management and administration (n=5, 2.2%), health sciences (n=18, 7.9%), hospitality and tourism (n=6, 2.6%), human services (n=6, 2.6%), law, public safety, corrections, and security (n=2, .9%), marketing distribution logistics (n=2, .9%), marketing distribution logistics (n=2, .9%), STEM (n=4, 1.7%), transportation (n=3, 1.3%). Those who answered CTE teacher with no specific course were the highest recorded (n=29, 12.7%). All the 229 respondents answered this question. See table 7.

Table 7

What is your education level?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Advanced Manufacturing	8		3.2	3.2
	Agriculture, food & natural resources	7		8.8	12.0
	Architecture & construction	3		11.5	23.5
	Business management	5		37.8	61.3
	Health sciences	18		28.6	89.9
	Hospitality & tourism	6		5.1	94.9
	Human services	6		2.6	2.6
	Law, corrections & safe	2		.9	.9
	Marketing logistics	2		.9	.9
	STEM	4		1.7	1.7
	Transportation	3		1.3	1.3
	CTE teacher	29		2.7	2.7
	Total	217		100.0	
	System	12			

Missing	229

Research Question Data Overview

In this section, the research findings that related to the initial research questions were shared. The statistical data from the survey data was shared. The sections discussed were receiving information, individual education program (IEP) team involvement, implementation, and collaboration. Each research question was broken down and data shared in this section.

Research Question One Data

Research one question was "As CTE instructors, how and by whom do you obtain an Individualized Education Program (IEP) of students with disabilities in your classrooms?" This question included the sections receiving information and personnel responsible. Each statement was given a four choice Likert scale option. As stated earlier, CTE instructors were surveyed. Of the 229 respondents, 213 chose to answer these statements.

The first statement for response was "I am given a finalized IEP with all the information completed." Many participants agreed (n=100, 43.7%) to receiving a finalized IEP. Additionally, those who strongly agreed were smaller (n=37, 17.4%). Those who disagreed were in second place (n=56, 26.3%) and strongly disagreed was (n=20, 9.4%) last according to the data. See table 8.

Table 8

I am given a finalized IEP with all the information completed.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	20	8.7	9.4	9.4
	Disagree	56	24.5	26.3	35.7
	Agree	100	43.7	46.9	82.6
	Strongly agree	37	16.2	17.4	100.0
	Total	213	93.0	100.0	
Missing	System	16	7.0		
Total		229	100.0		

When combined agree and strongly agreed that CTE educators did receive a final copy of an IEP was 64.3%, which was a positive outcome. However, over a quarter (26.3%) disagreed with this statement and 9.4% strongly disagreed. Therefore, 35.7% of CTE instructors did not receive a finalized copy of a completed IEP. Some may view this as a low percentage, however, 35.7% was of concern when meeting the needs of SWD.

Further data analysis was conducted to determine if there was a significant difference between the demographics and each statement in the survey. This was where one way ANOVA and Tukey were run on each statement. When looking at the statement about getting a complete finalized IEP, the $p=.008$ and this number $\leq .05$ therefore variances were not equal for between genders answering the survey. See table 9. So, the Tukey test was evaluated due to having three variables which were male, female, and prefer not to answer. Even though the visual of Tukey did not show multiple columns, which indicates significant discrepancies in the data, a discrepancy can be inferred. The reason was that the groups of gender were not evenly distributed. (Brouke, B, personal communication, October 3, 2022). The Tukey Post Hoc showed males agreed more (M=2.92) to getting a finalized IEP than females (M=2.55) or one who preferred not to state gender (M=2.50). See table 10.

Table 9

I am given a finalized IEP with all the information completed.

			Sum of Squares	df	Mean Square	F	Sig.
Between Groups	(Combined)		7.125	2	3.563	5.003	.008
	Linear Term	Unweighted	.344	1	.344	.484	.487
		Weighted	6.947	1	6.947	9.756	.002
		Deviation	.178	1	.178	.251	.617
Within Groups			149.532	210	.712		
Total			156.657	212			

Table 10

I am given a finalized IEP with all the information completed.

		Subset for alpha = 0.05
Gender	N	1
Prefer not to say	2	2.50
Female	112	2.55
Male	99	2.92
Sig.		.676

The next group evaluated was the group of age range. Within this demographic, p=.531 which the null hypothesis failed to reject therefore, age range group were equal in the population

surveyed. See table 11. So, age range showed no difference among age range of the CTE instructors surveyed.

Table 11

I am given a finalized IEP with all the information completed.

			Sum of Squares	df	Mean Square	F	Sig.
Between Groups	(Combined)		2.353	4	.588	.793	.531
	Linear Term	Unweighted	1.155	1	1.155	1.557	.214
		Weighted	.843	1	.843	1.136	.288
		Deviation	1.511	3	.504	.679	.566
Within Groups			154.304	208	.742		
Total			156.657	212			

The third demographic surveyed was the education level of the CTE teachers involved in this study. The ANOVA determined that p=.042. Therefore, the null hypothesis was rejected since p<.05. So, this group showed possibility of not being equal with receiving finalized IEP and education level. See table 12.

Table 12

I am given a finalized IEP with all the information completed.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	9.533	6	1.589	2.225	.042
Within Groups	147.124	206	.714		
Total	156.657	212			

In table 13, the homogenous subsets were reviewed and determined there was some differences between the education levels of CTE instructors. Those with a high school diploma

agreed more (M=3.00) that a finalized IEP was received than those who held a PhD/EdD (M=2.18), Ed. S (M=2.36) and an associate degree (M=2.42).

Table 13

I am given a finalized IEP with all the information completed.

		Subset for alpha = 0.05
Educational Level	N	1
PhD/EdD	11	2.18
Education Specialist	11	2.36
Associates Degree	19	2.42
MA/MS	60	2.68
BA/BS	80	2.86
Occupational Certificate	25	2.92
HS Diploma or Equivalent	7	3.00
Sig.		.101

Another demographic that was surveyed was years of experience in education. The survey was determining if years in education influenced the statement about getting finalized copy of an IEP. The data revealed a score of p=.244, which fail to reject this null hypothesis. Therefore, there it was assumed the data was equal between this demographic and the statement surveyed. See table 14.

Table 14

I am given a finalized IEP with all the information completed.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	4.011	4	1.003	1.387	.240

Within Groups	149.664	207	.723
Total	153.675	211	

Years of experience in an area of industry was a part of this study. Due to CTE instructors come from a field in the workforce, this was included in the research. After analyzing the data, p=.985 was found in ANOVA. See table 15. With this score, the null hypothesis was failed to be rejected. So, of those surveyed experience in industry did not have an effect of receiving a finalized IEP.

Table 15

I am given a finalized IEP with all the information completed.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.277	4	.069	.093	.985
Within Groups	146.748	196	.749		
Total	147.025	200			

The last demographic surveyed was collecting which grand division the CTE instructors taught. The researcher questioned if there was a difference in the geographic location in Tennessee and getting a finalized copy of the IEP. However, the data showed there was not a significant difference. The ANOVA showed p=.993 which is less than .05. See table 16.

Table 16

I am given a finalized IEP with all the information completed.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.011	2	.006	.007	.993
Within Groups	156.646	210	.746		

Total	156.657	212	

The next statement was “I am given and IEP at-a-glance.” This document was a condensed version of the IEP, but lists the modification and accommodations required for the CTE teacher to meet for the SWD. Those who strongly disagreed (n=11, 5.2%) and disagreed (n=19, 8.9%) were low in data returns. The participants who agreed (n=107, 50.2%) and strongly agreed (n=76, 35.7) to receiving and IEP at-a-glance was overwhelmingly positive. See table 17.

Table 17

I am given an IEP at-a-glance.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	11	4.8	5.2	5.2
	Disagree	19	8.3	8.9	14.1
	Agree	107	46.7	50.2	64.3
	Strongly agree	76	33.2	35.7	100.0
	Total	213	93.0	100.0	
Missing	System	16	7.0		
Total		229	100.0		

The statement shows a supportive outcome in receiving this document for SWD. With 85.9 % either who agreed or strongly agreed, then a majority of CTE educators do get this document. Those who strongly disagreed or disagreed were 14.1% which was relatively small. However, all CTE teachers need some type of documentation on the modifications and accommodations for SWD.

This data about getting an IEP at-a-glance was also looked at according to the demographics surveyed from the CTE instructors. An IEP at-a-glance was an ordinary form of

communication with CTE instructors and SWD. When compared within gender p=.804 was the value, so this showed the values were equal between the genders. See table 18.

Table 18

I am given an IEP at-a-glance.

			Sum of Squares	df	Mean Square	F	Sig.
Between Groups	(Combined)		.277	2	.139	.219	.804
	Linear Term	Unweighted	.034	1	.034	.053	.817
		Weighted	.152	1	.152	.240	.625
		Deviation	.125	1	.125	.198	.657
Within Groups			132.972	210	.633		
Total			133.249	212			

Age ranges of CTE teachers were the next set of data analyzed by the researcher. Among age ranges p=.139 which was >.05, so an equal population was determined. Therefore, no discrepancy was found in the mean between age ranges on this statement. See table 19.

Table 19

I am given an IEP at-a-glance.

			Sum of Squares	df	Mean Square	F	Sig.
Between Groups	(Combined)		4.348	4	1.087	1.754	.139
	Linear Term	Unweighted	.931	1	.931	1.503	.222

	Weighted	2.707	1	2.707	4.367	.038
	Deviation	1.641	3	.547	.883	.451
Within Groups		128.901	208	.620		
Total		133.249	212			

When this survey was conducted, educational levels of CTE instructors was part of the demographics. The result of <.001 showed that the data between education levels was not equal, then further investigation was required. See table 20.

Table 20

I am given an IEP at-a-glance.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	19.523	6	3.254	5.894	<.001
Within Groups	113.726	206	.552		
Total	133.249	212			

Then, the homogeneous subset of Tukey was viewed for significant differences. This showed there was a significant difference in educational levels and receiving an IEP at-a-glance. The differences showed among occupational certificate (M=2.52) and high school diploma (M=2.57). In these two degrees, the data showed these CTE instructors were less likely to receive an IEP at-a-glance than those with a BA/BS (M=3.33) and MA/MS (M=3.38). Therefore, this study revealed a significant between these groups and getting an IEP at-a-glance. See table 21.

Table 21

I am given an IEP at-a-glance.

Educational Level	N	Subset for alpha = 0.05

		1	2	3
Occupational Certificate	25	2.52		
HS Diploma or Equivalent	7	2.57	2.57	
Other	11	2.91	2.91	2.91
Associates Degree	19	2.95	2.95	2.95
PhD/EdD	11	3.27	3.27	3.27
BA/BS	80		3.33	3.33
MA/MS	60			3.38
Sig.		.073	.073	.558

Another demographic surveyed was years of experience in education. When looking between these groups p=.308 and this determined the populations were of equal value. So, the data revealed no significant differences among the ranges of experience. See table 22.

Table 22

I am given an IEP at-a-glance.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2.935	4	.734	1.209	.308
Within Groups	125.608	207	.607		
Total	128.542	211			

Years working with industry was surveyed. Since many CTE instructors work with industry before entering education, surveying this was important. The data showed p=.001 and showed $p \leq .05$ and the groups were not equal. See table 23.

Table 23

I am given an IEP at-a-glance.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	11.309	4	2.827	4.769	.001
Within Groups	116.213	196	.593		
Total	127.522	200			

The Tukey test was viewed for more determination with this group. Since the group of 20+ years does not share both columns then there was a significant difference. So, those with 20+ years showed a significantly lower difference than others, especially those with 6-10 years of with industry (M=3.51), when receiving an IEP at-a-glance. See table 24.

Table 24

I am given an IEP at-a-glance.

Years with Industry	N	Subset for alpha = 0.05	
		1	2
20+	65	2.85	
11-15	26	3.15	3.15
16-20	16	3.19	3.19
1-5	59	3.25	3.25
6-10	35		3.51
Sig.		.232	.354

The last demographic in this group was the difference in the grand divisions of Tennessee. The researcher surveyed this to see if the different divisions received an IEP at-a-glance on an even level. However, with a p=.863, this showed the division were equal in relation to this statement. See table 25.

Table 25

I am given an IEP at-a-glance.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.187	2	.093	.147	.863
Within Groups	133.062	210	.634		
Total	133.249	212			

Another statement in this section was “I am sent an email with informal information”. The data for this statement showed close percentages between disagree (n=75, 35.2%) and agree (n=99, 46.5%). Therefore, the percentages for strongly disagree (n=21, 9.9%) and strongly agree (n=18, 8.5%) were also noted. See table 26.

Table 26

I am sent an email with informal information.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	21	9.2	9.9	9.9
	Disagree	75	32.8	35.2	45.1
	Agree	99	43.2	46.5	91.5
	Strongly agree	18	7.9	8.5	100.0
	Total	213	93.0	100.0	
Missing	System	16	7.0		
Total		229	100.0		

Even though the responses were very close with strongly disagree and disagree being 45.1% and agree and strongly agree showed 55.0%, this was an area of concern. Sharing informal or any type of emails about SWD was legally and ethically wrong. Therefore 55.0% of those surveyed need to understand possible ramifications. However, those sending the emails should be the ones who are addressed in this area.

To take a more in-depth look at getting information by email and demographics, ANOVA was run. The first one-way ANOVA ran was about gender. This revealed p=.026 therefore, it was assumed the groups were not equal. See table 27.

Table 27

I am sent an email with informal information.

			Sum of Squares	df	Mean Square	F	Sig.
Between Groups	(Combined)		4.484	2	2.242	3.722	.026
	Linear Term	Unweighted	2.622	1	2.622	4.353	.038
		Weighted	3.491	1	3.491	5.795	.017
		Deviation	.993	1	.993	1.649	.201
Within Groups			126.502	210	.602		
Total			130.986	212			

To determine if there was a discrepancy between genders, Tukey had to be reviewed. See table 28. There was a significant difference between those who preferred not to say and males. The ones who preferred not to say was lower than males in relation to this statement.

Table 28

I am sent an email with informal information.

		Subset for alpha = 0.05	
Gender	N	1	2
Prefer not to say	2	1.50	
Female	112	2.45	2.45
Male	99		2.66
Sig.		.098	.890

Another demographic with data was age ranges regarding getting information by email. This data showed p = .772 which was greater than .05. Hence, no significant difference between these age groups and the surveyed statement. See table 29.

Table 29

I am sent an email with informal information.

			Sum of Squares	df	Mean Square	F	Sig.
Between Groups	(Combined)		1.123	4	.281	.450	.772
	Linear Term	Unweighted	.124	1	.124	.199	.656
		Weighted	.848	1	.848	1.358	.245
		Deviation	.276	3	.092	.147	.931
Within Groups			129.863	208	.624		
Total			130.986	212			

Educational levels were the next section to be surveyed. The results from the ANOVA were p=.170 and this showed equality between the groups. So, no sign of any variances among educational levels and getting email with information about SWD. See table 30.

Table 30

I am sent an email with informal information.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	5.583	6	.930	1.528	.170
Within Groups	125.403	206	.609		
Total	130.986	212			

Years of experience in education was the next listed demographic on the survey. This data showed p=.831, so again this show variances are equal in the group of years of experience.

The demographic of educational experience and receiving information by email about SWD had no discrepancies. See table 31.

Table 31

I am sent an email with informal information.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.909	4	.227	.368	.831
Within Groups	127.921	207	.618		
Total	128.830	211			

Another demographic that was compared was number of years with industry and getting informal information by email. When the data was analyzed in ANOVA, p=.407 was the determining score. This does show a no difference between years industry and getting information about SWD in an email. See table 32.

Table 32

I am sent an email with informal information.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2.527	4	.632	1.004	.407
Within Groups	123.363	196	.629		
Total	125.891	200			

The last group analyzed was between the grand division in Tennessee. ANOVA results were p=.499, which does not show a discrepancy. See table 33.

Table 33

I am sent an email with informal information.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.865	2	.433	.698	.499
Within Groups	130.121	210	.620		
Total	130.986	212			

The final statement pertaining to the part of the research question of receiving information was “I am told nothing about an IEP.” Those who strongly disagreed (n=103, 48.4%) had the top percentage with disagreed (n=83, 39.0%) following next. Participants who agreed (n=21, 9.9%) and strongly disagreed (n=6, 2.8%) had relatively low frequency of numbers. See table 34.

Table 34

I am sent an email with informal information.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	21	9.2	9.9	9.9
	Disagree	75	32.8	35.2	45.1
	Agree	99	43.2	46.5	91.5
	Strongly agree	18	7.9	8.5	100.0
	Total	213	93.0	100.0	
Missing	System	16	7.0		
Total		229	100.0		

Those who strongly disagreed or disagreed with this statement were 87.7%, which is a positive outcome. This shows overwhelmingly that most CTE educators know something about the IEP for SWD in their classrooms. This survey did show a total of 12.7% was given no information about an IEP. Even though this is small, school districts should make efforts for this to be zero percent.

On this final question of this section, the demographics were compared to the statement about receiving no information about SWD. Gender was the first part analyzed pertaining to this sentence. The data showed there was no significant discrepancy with a score of p=.949. Therefore, gender had no effect on not getting information about SWD. See table 35.

Table 35

I am told nothing about an IEP.

			Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	(Combined)		.062	2	.031	.052	.949
	Linear Term	Unweighted	.061	1	.061	.103	.749
		Weighted	.014	1	.014	.023	.880
		Deviation	.048	1	.048	.081	.776

Within Groups	124.933	210	.595
Total	124.995	212	

When age range was evaluated with ANOVA, the score was p=.218. Once again, the score depicted the age range categories were equal in nature. Hence, the age ranges and receiving no IEP information had no discrepancy. See table 36.

Table 36

I am told nothing about an IEP.

			Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	(Combined)		3.398	4	.850	1.453	.218
	Linear Term	Unweighted	.004	1	.004	.008	.930
		Weighted	1.602	1	1.602	2.740	.099
		Deviation	1.796	3	.599	1.024	.383
Within Groups			121.597	208	.585		
Total			124.995	212			

The next category was educational levels and getting no information about SWD. This showed p=.008, so this shows a difference. See table 37. Due to a possible discrepancy, Tukey homogeneous subsets were evaluated.

Table 37

I am told nothing about an IEP.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	9.944	6	1.657	2.967	.008
Within Groups	115.051	206	.559		
Total	124.995	212			

The Tukey homogeneous subsets revealed a significant discrepancy between two of the educational levels that were surveyed. CTE instructors with bachelor's degrees (M=1.53) or noted other educational levels (M=1.55) had lower means than the other categories. Let it also be noted that all the CTE instructors revealed that the other degree was educational specialists. CTE instructors with a PhD/EdD (M=2.36) had a higher rate of mean about not receiving information about an IEP. See table 38.

Table 38

I am told nothing about an IEP.

		Subset for alpha = 0.05	
Educational Level	N	1	2
BA/BS	80	1.53	
Other	11	1.55	
MA/MS	60	1.60	1.60

HS Diploma or Equivalent	7	1.71	1.71
Occupational Certificate	25	1.80	1.80
Associates Degree	19	2.00	2.00
PhD/EdD	11		2.36
Sig.		.563	.069

How years of experience and not getting IEP information relates was the next part analyzed. Data showed a score of p=.129 between the groups. Therefore, there was no significant discrepancy in relation to this demographic and the statement in the survey. See table 39.

Table 39

I am told nothing about an IEP.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	4.197	4	1.049	1.805	.129
Within Groups	120.345	207	.581		
Total	124.542	211			

Then it was time to look at years of industry and being told nothing about an IEP. Here was where the scored showed p=.645. Again, this was not a score to reveal any type of variance. See table 40.

Table 40

I am told nothing about an IEP.

	Sum of Squares	df	Mean Square	F	Sig.

Between Groups	1.515	4	.379	.626	.645
Within Groups	118.575	196	.605		
Total	120.090	200			

The last demographic to be viewed was the grand divisions of Tennessee. This data revealed a score of p=.905. Since this score was p=.05 it was assumed that categories were equal. See table 41.

Table 41

I am told nothing about an IEP.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.119	2	.060	.100	.905
Within Groups	124.876	210	.595		
Total	124.995	212			

A subpart to research one question pertains to who relays the IEP to the CTE instructor. In school settings, different people were identified as having this responsibility. For this study, personnel were narrowed down to four different possibilities. Those surveyed shared the special education teacher (n=96, 45.1%) gave the IEP most of the time. Participants were in strong agreement (n=52, 24.4%) showed information came from the special education teacher. The remainder data showed strongly disagreed (n=22, 10.3%) and disagreed (n=43, 20.2%) with the responsible personnel as the special education teacher. See table 42.

Table 42

I am given information from the special education teacher.

	Frequency	Percent	Valid Percent	Cumulative Percent

Valid	Strongly disagree	9	3.9	4.2	4.2
	Disagree	35	15.3	16.4	20.7
	Agree	111	48.5	52.1	72.8
	Strongly agree	58	25.3	27.2	100.0
	Total	213	93.0	100.0	
Missing	System	16	7.0		
Total		229	100.0		

Even though a strong percentage in the frequency chart revealed many CTE instructors disclosed information was given by the special education teacher, the data was disaggregated by demographics. First, gender was viewed as it pertained to special education teachers supplying the information. Data showed the score was p=.009, so there was a difference with the mean values. See table 43.

Table 43

I am given information from the special education teacher.

			Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	(Combined)		5.695	2	2.847	4.854	.009
	Linear Term	Unweighted	2.691	1	2.691	4.588	.033
		Weighted	4.921	1	4.921	8.389	.004
		Deviation	.773	1	.773	1.318	.252
Within Groups			123.188	210	.587		
Total			128.883	212			

Since the ANOVA showed a possible discrepancy, the Tukey homogeneous subsets were evaluated. The males had a higher mean (M=3.17) than the ones who did not state gender and females in subsets one. Those who preferred not to say the gender, had a significantly lower mean (M=2.00) than those who were male or female in subset two. See table 44.

Table 44

I am given information from the special education teacher.

		Subset for alpha = 0.05	
Gender	N	1	2
Prefer not to say	2	2.00	
Female	112	2.91	2.91
Male	99		3.17
Sig.		.110	.831

The next group evaluated was the group of age range. Within this demographic, p=.976 which the null hypothesis failed to reject therefore, age range group were equal in the population surveyed. See table 45. So, age range showed no difference among age range of the CTE instructors surveyed when given information from the special education teacher.

Table 45

I am given information from the special education teacher.

			Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	(Combined)		.290	4	.073	.117	.976
	Linear Term	Unweighted	.011	1	.011	.018	.893
		Weighted	.004	1	.004	.006	.940
		Deviation	.287	3	.096	.154	.927
Within Groups			128.593	208	.618		
Total			128.883	212			

Another demographic that was surveyed was difference in educational levels. The survey was determining if years in education levels influenced the statement about getting information from the special education teacher. The data revealed a score of p=.176, which does not reject this null hypothesis. Therefore, there it was assumed the data was equal between this demographic and the statement surveyed. See table 46.

Table 46

I am given information from the special education teacher.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	5.438	6	.906	1.512	.176
Within Groups	123.445	206	.599		
Total	128.883	212			

Next a comparison was analyzed between years of experience in education and receiving information from special education teachers. The data showed that p=.214, hence this showed the groups were considered equal. So, there was no significant difference between this statement and years of experience in education. See table 47.

Table 47

I am given information from the special education teacher.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3.519	4	.880	1.464	.214
Within Groups	124.406	207	.601		
Total	127.925	211			

Then the data was viewed for differences between years working with industry and getting information from the special education teacher. The results showed p=.363 which means the variances within this population was considered equal. Therefore, no discrepancies were found between year with industry and this statement. See table 48.

Table 48

I am given information from the special education teacher.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2.672	4	.668	1.089	.363
Within Groups	120.204	196	.613		
Total	122.876	200			

With a score p=.948, this group also shows no significant discrepancy. Hence the statement about receiving information from the special education teacher and the grand divisions in Tennessee were considered equal. See table 49.

Table 49

I am given information from the special education teacher.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.065	2	.033	.053	.948
Within Groups	128.817	210	.613		
Total	128.883	212			

The CTE instructors who got the IEP information about SWD showed a majority who agreed or strongly agreed with 69.5% of the total surveyed. Those who disagreed or strongly disagreed were 30.5%. Special education teachers were required to attend IEP meetings. Therefore, a reasonable assumption would be the information was shared with SWD teachers, which included CTE instructors.

Another possibility for personnel being responsible for relaying information was the guidance counselor. This data showed those who disagreed (n=72, 33.8) and those who agreed (n=90, 42.3%) were closer in alignment than those who strongly disagreed (n=36, 16.9%) or strongly agreed (n=15, 7.0%). See table 50.

Table 50

I am given information from the special education teacher.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	9	3.9	4.2	4.2

	Disagree	35	15.3	16.4	20.7
	Agree	111	48.5	52.1	72.8
	Strongly agree	58	25.3	27.2	100.0
	Total	213	93.0	100.0	
Missing	System	16	7.0		
Total		229	100.0		

When looking at the totals for the guidance counselor as the person responsible, the totals were remarkably close. Those who strongly disagreed or disagreed was 50.7% and those who strongly agreed or agreed were 49.3%. This was not a surprising find. Even though guidance counselors are not required to attend IEP meetings, this was an innovative idea. However, school districts only designate guidance counselors to take this responsibility only about half of the time, according to the data in this study.

The statement about getting information from the guidance counselor was then evaluated by different demographics. Data was run comparing this statement and all the different demographics surveyed in this study. First analyzed was gender compared to receiving information from the guidance counselor about SWD. The ANOVA showed p=<.001 therefore there was some type of discrepancy. See table 51.

Table 51

I am given information from the guidance counselor.

			Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	(Combined)		17.852	2	8.926	14.483	<.001
	Linear Term	Unweighted	2.856	1	2.856	4.635	.032
		Weighted	17.835	1	17.835	28.939	<.001
		Deviation	.017	1	.017	.028	.868
Within Groups			129.425	210	.616		
Total			147.277	212			

When looking at the Tukey homogeneous subsets which showed discrepancies in those who preferred not to state gender and males. Prefer not to say had a mean of M=1.50; male had a mean of M=2.71. Those who preferred not to state gender had a lower mean and the male gender had a higher mean score. See table 52.

Table 52

I am given information from the guidance counselor.

		Subset for alpha = 0.05	
Gender	N	1	2
Prefer not to say	2	1.50	
Female	112	2.15	2.15
Male	99		2.71
Sig.		.337	.453

Next demographic viewed was the age ranges of CTE instructors and getting information from guidance counselors. The data showed p=.385, therefore no discrepancies were found between this statement and age ranges. See table 53.

Table 53

I am given information from the guidance counselor.

			Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	(Combined)		2.902	4	.726	1.045	.385
	Linear Term	Unweighted	.009	1	.009	.014	.908
		Weighted	.902	1	.902	1.299	.256
		Deviation	2.000	3	.667	.961	.412
Within Groups			144.375	208	.694		

Total	147.277	212

The different level of education was next to be surveyed. Since there was a score of p=.735, there was no significant difference within levels of education and receiving information about SWD from guidance counselors. See table 54.

Table 54

I am given information from the guidance counselor.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2.502	6	.417	.593	.735
Within Groups	144.775	206	.703		
Total	147.277	212			

Years of experience was also surveyed during this research period. So, years of experience and getting information from guidance counselors was analyzed during this study. This score of p=.256 revealed no differences between this statement and years of experience. See table 55. With a score of p=.898, there was no discrepancy between the year of working within industry and getting information from guidance counselors. See table 56.

The last demographic surveyed was between the grand divisions in Tennessee. Since the score was p=.889, once again there was no significant discrepancy between the grand divisions and getting information from guidance counselors. See table 57.

Table 55

I am given information from the guidance counselor.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3.655	4	.914	1.341	.256
Within Groups	141.062	207	.681		
Total	144.717	211			

Table 56

I am given information from the guidance counselor.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.736	4	.184	.269	.898
Within Groups	133.990	196	.684		
Total	134.726	200			

Table 57

I am given information from the guidance counselor.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.166	2	.083	.118	.889
Within Groups	147.111	210	.701		
Total	147.277	212			

Lead teachers have become a widespread practice in many school districts. Therefore, due to a more administrative role, lead teachers could possibly have the responsibility of insuring

CTE instructors receive information about SWD. However, the data does not necessarily show that to be the case. This data was scattered with those who disagreed (n=97, 45.5%) having the most responses. The remainder of the data showed strongly disagreed (n=39, 18.3%), agreed (n=66, 31%), and strongly disagreed (n=11, 5.2%) pertaining to lead teacher relaying information. See table 58.

Table 58

I am given information from a lead teacher.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	39	17.0	18.3	18.3
	Disagree	93	40.6	43.7	62.0
	Agree	69	30.1	32.4	94.4
	Strongly agree	12	5.2	5.6	100.0
	Total	213	93.0	100.0	
Missing	System	16	7.0		
Total		229	100.0		

In reference to lead teachers being responsible for giving information about SWD, these findings were reasonable. The lead teacher was not required to attend IEP meetings. However, those in this role should have access to SWD information. The school districts would make the

decision whether lead teachers would have this responsibility. Additionally, lead teachers may not work with CTE instructors daily.

To take a more in depth look at the demographics surveyed and various statements, ANOVA tests were conducted and evaluated to determine any differences. So, the statement about getting information from a lead teacher and the demographic of gender was evaluated. This data showed a score of p=.035 which indicates a discrepancy between genders and this statement. See table 59.

Table 59

I am given information from a lead teacher.

			Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	(Combined)		4.480	2	2.240	3.413	.035
	Linear Term	Unweighted	.018	1	.018	.028	.868
		Weighted	3.653	1	3.653	5.566	.019
		Deviation	.827	1	.827	1.260	.263
Within Groups			137.829	210	.656		
Total			142.310	212			

Therefore, the researcher took a closer look at the means of the genders reported. As with Receiving information table 10, the groups of gender were not evenly distributed, therefore the means were viewed individually for discrepancies. The females surveyed showed a mean of M=2.12 which was lower than the males of M=2.40. additionally, those who preferred not to state gender had a mean of M=2.50. The males and those who preferred not to state gender had a high mean of getting information from the lead teacher. See table 60.

Table 60

I am given information from a lead teacher.

		Subset for alpha = 0.05
Gender	N	1
Female	112	2.12
Male	99	2.40
Prefer not to say	2	2.50
Sig.		.700

When a score of p=.288 was found between age ranges and getting information from a lead teacher, then no differences were found. So, the ANOVA test showed the information gathered to be of equal values. See table 61.

Table 61

I am given information from a lead teacher.

			Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	(Combined)		3.357	4	.839	1.256	.288
	Linear Term	Unweighted	.016	1	.016	.024	.878

	Weighted	.345	1	.345	.517	.473
	Deviation	3.011	3	1.004	1.503	.215
Within Groups		138.953	208	.668		
Total		142.310	212			

Levels of education was surveyed pertaining to getting information from the lead teacher. However, with a score of p=.487 there seemed to be no significant discrepancy between this statement and levels of education that was surveyed. See table 62.

Table 62

I am given information from a lead teacher.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3.681	6	.613	.912	.487
Within Groups	138.629	206	.673		
Total	142.310	212			

Years of experience was another demographic surveyed during this study. The statement about receiving information from a lead teacher and years of experience were compared. While evaluating the data a score of p=.065 was discovered. With this score there was no significant difference found between the sentence and years of experience of the CTE instructors involved in this survey. See table 63.

Table 63

I am given information from a lead teacher.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	5.800	4	1.450	2.249	.065

Within Groups	133.446	207	.645
Total	139.245	211	

Another part surveyed was the number of CTE educators with years of experience within industry. This type of experience was analyzed with the statement about getting information about SWD from a lead teacher. The ANOVA resulted in a score of p=.192 which showed no significant discrepancies between the sentence and the party surveyed. See table 64.

Table 64

I am given information from a lead teacher.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	4.101	4	1.025	1.540	.192
Within Groups	130.446	196	.666		
Total	134.547	200			

The final demographic viewed pertaining to the lead teacher as information responsibility was the grand divisions in Tennessee. With this score of p=.880, then no significant differences were found between this grand divisions in Tennessee and the lead teacher giving information about SWD. See table 65.

Table 65

I am given information from a lead teacher.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.173	2	.087	.128	.880
Within Groups	142.137	210	.677		

Total	142.310	212	

The final possible personnel responsible for giving information to CTE instructors was administration. Once again, those who disagreed (n=82, 38.5%) and those who agreed (n=88, 41.3%) were very closely aligned. The results from strongly disagree (n=29, 13.6%) and strongly agree (n=14, 6.6%) were behind the other responses. See table 66.

Table 66

I am given information from administration.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	29	12.7	13.6	13.6
	Disagree	82	35.8	38.5	52.1
	Agree	88	38.4	41.3	93.4
	Strongly agree	14	6.1	6.6	100.0
	Total	213	93.0	100.0	
Missing	System	16	7.0		
Total		229	100.0		

Administrators or a designee were required to attend IEP meetings. Therefore, the total finding of those who strongly disagreed or disagreed with were 52.1% and those who agreed or strongly agreed were 47.9% was significant. These findings are very closely aligned. However, this is not surprising. Even though the administration was required to attend meetings, this does not make a required duty to relay the information. On a positive note, it was good to see 47.9% took this responsibility that the information was shared. By sharing this information, administrators know the SWD information was given to the right people.

The group administrators were the last section to be surveyed about giving information about SWD to CTE instructors. While the frequencies were closely aligned, the data was

reviewed in a unique perspective. Each demographic was compared to this statement about administrators and information. The first to be viewed was the group of gender. With a score of p=<.001, then the data reflected significant discrepancies were possible. See table 67.

Table 67

I am given information from administration.

			Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	(Combined)		16.279	2	8.139	14.105	<.001
	Linear Term	Unweighted	2.809	1	2.809	4.867	.028
		Weighted	16.242	1	16.242	28.145	<.001
		Deviation	.037	1	.037	.064	.800
Within Groups			121.186	210	.577		
Total			137.465	212			

Therefore, the means in this data were reviewed more closely to determine the exact discrepancies. Those who preferred not to give gender had a mean M=1.50, which was less than males or females. Then the males had a mean of M=2.70 which was higher than the other genders. So, more males got information from administrators than others. See table 68.

Table 68

I am given information from administration.

		Subset for alpha = 0.05	
Gender	N	1	2
Prefer not to say	2	1.50	
Female	112	2.17	2.17
Male	99		2.70
Sig.		.294	.466

In table 69 the score of p=.769 was revealed. Therefore, the statement about getting information from administration and age range of CTE educators showed no significant discrepancies.

Table 69

I am given information from administration.

			Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	(Combined)		1.192	4	.298	.455	.769
	Linear Term	Unweighted	.043	1	.043	.065	.799
		Weighted	.791	1	.791	1.207	.273
		Deviation	.402	3	.134	.204	.893
Within Groups			136.273	208	.655		
Total			137.465	212			

When comparing level of education and getting information from administration the score showed p=.530. With this score the variables were deemed to be equal between this statement and levels of education. See table 70.

Table 70

I am given information from administration.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3.336	6	.556	.854	.530
Within Groups	134.129	206	.651		
Total	137.465	212			

The next demographic to be analyzed was years of experience in education and the statement of getting information from administration. The score of p=.090 showed no significant discrepancies. See table 71.

Table 71

I am given information from administration.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	5.124	4	1.281	2.043	.090
Within Groups	129.796	207	.627		
Total	134.920	211			

When reviewing years working in industry and receiving information from administration the score revealed equality between the groups surveyed. With the data revealing a score of p=.336 then the null hypothesis failed to be rejected. See table 72.

Table 72

I am given information from administration.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2.940	4	.735	1.147	.336
Within Groups	125.607	196	.641		
Total	128.547	200			

The last demographic in this section was between the grand divisions of Tennessee and administration giving information about SWD. The score of p=.378 showed no significant differences. See table 73.

Table 73

I am given information from administration.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.269	2	.634	.978	.378
Within Groups	136.196	210	.649		
Total	137.465	212			

Research Question Two Data

Research question two was “In what ways are CTE instructors invited to IEP meetings for future students with disabilities? How often do CTE instructors attend IEP meetings?” This

section on the survey was titled IEP team involvement. To address this research question, the researcher wanted to find out how CTE educators are invited to IEP meetings. The next part inquired about how often the CTE instructors attended these meetings. As for the survey questions, 213 of the 229 responded to all the statements in this section.

In education today, modes of communication were expanding to inform teachers of meetings and other information. The first statement gauged the number of CTE instructors who received a hard or paper copy of a notice of an IEP meeting. This would be much like the one sent to parents. Those who strongly disagreed (n=55, 26.1%) or disagreed (n=104, 49.3%) with the hard copy mode of communication ranked higher in comparison to agreed (n=39, 18.5%) or strongly agreed (n=13, 6.2%). See table 74.

Table 74

I receive a hard copy of an invitation to IEP meetings.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	55	24.0	26.1	26.1
	Disagree	104	45.4	49.3	75.4
	Agree	39	17.0	18.5	93.8
	Strongly agree	13	5.7	6.2	100.0
	Total	211	92.1	100.0	
Missing	System	18	7.9		
Total		229	100.0		

There was an overwhelming response for those who do not get a hard copy of IEP meeting notices. The participants shared strongly disagreed and disagreed with 75.9% that did not get a hard copy of meeting information. On the other hand, 24.2% either agreed or strongly agreed that got a hard copy of an invitation to an IEP meeting.

When analyzing the collected data, the demographics were compared to this statement about getting a hard copy of an invitation to IEP meetings. First, gender was evaluated which showed a score of p=.009. See table 75. Hence, caused for further review of the mean scored between the gender groups.

Table 75

I receive a hard copy of an invitation to IEP meetings.

			Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	(Combined)		6.451	2	3.226	4.824	.009
	Linear Term	Unweighted	.151	1	.151	.226	.635
		Weighted	4.770	1	4.770	7.134	.008
		Deviation	1.682	1	1.682	2.515	.114
Within Groups			139.075	208	.669		
Total			145.526	210			

Due to uneven distribution of gender, IEP team involvement table 76 had to be viewed like receiving information table 10 and 60. When the means of the genders were reviewed, this showed that females (M=1.88) had a lower average than males (M=2.22) or those who preferred not to state gender (M=2.50) to get a hard copy of an invitation. So, these female CTE instructors were less likely to get a hard copy of an invitation to an IEP meeting. See table 76.

Table 76

I receive a hard copy of an invitation to IEP meetings.

		Subset for alpha = 0.05
Gender	N	1
Female	110	1.88
Male	99	2.22

Prefer not to say	2	2.50
Sig.		.405

When the population of age range was evaluated, the score of p=.084 was discovered. Therefore, no significant discrepancy was found with this score. See table 77.

Table 77

I receive a hard copy of an invitation to IEP meetings.

			Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	(Combined)		5.663	4	1.416	2.085	.084
	Linear Term	Unweighted	3.298	1	3.298	4.858	.029
		Weighted	3.641	1	3.641	5.363	.022
		Deviation	2.021	3	.674	.992	.397
Within Groups			139.863	206	.679		
Total			145.526	210			

Next compared were education levels to getting a hard copy to an IEP team meeting, which showed a score of p=.420. This type of score showed the groups to be of equal value so no major differences. See table 78.

Table 78

I receive a hard copy of an invitation to IEP meetings.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	4.200	6	.700	1.010	.420
Within Groups	141.326	204	.693		
Total	145.526	210			

Years of experience in education and getting an invitation in a hard copy was viewed next. Once again, the score did not depict a significant discrepancy. The score between the groups was p=.551, so groups were considered equal. See table 79.

Table 79

I receive a hard copy of an invitation to IEP meetings.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2.077	4	.519	.762	.551
Within Groups	139.618	205	.681		
Total	141.695	209			

When looking at year with industry experience and this statement, the score attained on the ANOVA was p=.085. So, there was equality between the groups in this data set. Therefore, industry experience and getting an invitation to a meeting showed no discrepancy. See table 80.

Table 80

I receive a hard copy of an invitation to IEP meetings.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	5.769	4	1.442	2.078	.085
Within Groups	134.623	194	.694		
Total	140.392	198			

The last demographic surveyed was the grand division of Tennessee. When the score of p=.264 was reported, the researcher realized there was no significant differences between this statement and the grand divisions. See table 81.

Table 81

I receive a hard copy of an invitation to IEP meetings.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.853	2	.927	1.341	.264
Within Groups	143.673	208	.691		
Total	145.526	210			

Another mode of communication that was surveyed was using email for information. Most respondents indicated email was a main way of being informed of meetings. The results showed that agreed (n=101, 47.9%) and strongly agreed (n=61, 28.9%) got the most favorable responses. With strongly disagreed (n=20, 9.5) and disagreed (n=29, 13.7%) getting the lower responses. See table 82.

Table 82

I receive an email inviting me to IEP meetings.

	Frequency	Percent	Valid Percent	Cumulative Percent

Valid	Strongly disagree	20	8.7	9.5	9.5
	Disagree	29	12.7	13.7	23.2
	Agree	101	44.1	47.9	71.1
	Strongly agree	61	26.6	28.9	100.0
	Total	211	92.1	100.0	
Missing	System	18	7.9		
Total		229	100.0		

With the responding participants combined those who agreed and strongly agreed was 76.8%, which strongly shows email being used as a way for communication. In contrast, those who strongly disagreed and disagreed were 23.2%. If email was not used with these respondents, another form of communication could have been used.

Even though the frequencies showed a strong number of CTE instructors surveyed got an email with an invitation to an IEP meeting, the researcher ran ANONA to check for discrepancies. First, gender was evaluated with a score of p=.062. See table 83. Then age ranges were analyzed and a score of p=.573 was determined. See table 84. Next, educational levels were reviewed which showed a score of p=.187. See table 85. Years of experience in education was viewed and determined to have a score of p=.421. See table 86. Then years working in industry was compared to this statement and was found to have a score of p=.689. See table 87. Last, the grand divisions of Tennessee were evaluated with a score of p=.310. See table 88. None of the scores were p<.05, therefore the variances were considered equal.

Table 83

I receive an email inviting me to IEP meetings.

		Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	(Combined)	4.489	2	2.244	2.826	.062

	Linear Term	Unweighted	.312	1	.312	.393	.531
		Weighted	2.849	1	2.849	3.587	.060
		Deviation	1.639	1	1.639	2.064	.152
Within Groups			165.208	208	.794		
Total			169.697	210			

Table 84

I receive an email inviting me to IEP meetings.

			Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	(Combined)		2.367	4	.592	.729	.573
	Linear Term	Unweighted	1.127	1	1.127	1.387	.240
		Weighted	1.100	1	1.100	1.355	.246
		Deviation	1.267	3	.422	.520	.669
Within Groups			167.329	206	.812		
Total			169.697	210			

Table 85

I receive an email inviting me to IEP meetings.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	7.067	6	1.178	1.478	.187
Within Groups	162.629	204	.797		
Total	169.697	210			

Table 86

I receive an email inviting me to IEP meetings.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3.153	4	.788	.977	.421
Within Groups	165.461	205	.807		
Total	168.614	209			

Table 87

I receive an email inviting me to IEP meetings.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.847	4	.462	.564	.689
Within Groups	158.746	194	.818		
Total	160.593	198			

Table 88

I receive an email inviting me to IEP meetings.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.899	2	.950	1.177	.310
Within Groups	167.797	208	.807		
Total	169.697	210			

The next statement survey pertained to receiving a phone call about an IEP meeting for a SWD. This method of communication showed not to be one of the dominant ones. The respondents strongly disagreed (n=57, 26.9%) or disagreed (n=116. 54.7%) to getting a phone call. There were some who agreed (n=34, 16.0%) and strongly agreed (n=5, 2.4) to a phone call with information. See table 89.

Table 89

I receive a phone call inviting me to IEP meetings.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	57	24.9	26.9	26.9
	Disagree	116	50.7	54.7	81.6

	Agree	34	14.8	16.0	97.6
	Strongly agree	5	2.2	2.4	100.0
	Total	212	92.6	100.0	
Missing	System	17	7.4		
Total		229	100.0		

Regarding the statement of getting a phone call as an invitation to IEP meetings and the demographics surveyed, the results varied. In the population of gender, a score of p=.057 was reported. See table 90. With the group of age ranges, the score of p=.506 was determined using ANOVA. See table 91. The next group evaluated was the levels of education with the CTE instructors surveyed and a score of p=.279 was gathered. See table 92. Another demographic viewed was years of experience in education compared to the statement about phone calls as invitations and a score of .201 was analyzed. See table 93. All the above scores reported did not show any significant discrepancies.

Table 90

I receive a phone call inviting me to IEP meetings.

			Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	(Combined)		2.985	2	1.493	2.910	.057
	Linear Term	Unweighted	.616	1	.616	1.201	.274
		Weighted	2.961	1	2.961	5.772	.017
		Deviation	.024	1	.024	.047	.828
Within Groups			107.217	209	.513		
Total			110.203	211			

Table 91

I receive a phone call inviting me to IEP meetings.

	Sum of Squares	Df	Mean Square	F	Sig.

Between Groups	(Combined)		1.743	4	.436	.832	.506
	Linear Term	Unweighted	.004	1	.004	.009	.926
		Weighted	.026	1	.026	.049	.825
		Deviation	1.717	3	.572	1.093	.353
Within Groups			108.460	207	.524		
Total			110.203	211			

Table 92

I receive a phone call inviting me to IEP meetings.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3.912	6	.652	1.258	.279
Within Groups	106.291	205	.518		
Total	110.203	211			

Table 93

I receive a phone call inviting me to IEP meetings.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3.011	4	.753	1.507	.201
Within Groups	102.922	206	.500		
Total	105.934	210			

When comparing years of experience working with industry and receiving a phone call as a means of an invitation to an IEP meeting, there was a discrepancy between the groups. Since the score of p=.011 was revealed, a closer look at the data was necessary. See table 94.

Table 94

I receive a phone call inviting me to IEP meetings.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	6.491	4	1.623	3.338	.011
Within Groups	94.789	195	.486		
Total	101.280	199			

When viewing the Tukey homogeneous subsets, some discrepancies were revealed. Those who reported 16-20 years of industry experience showed lower mean (M=1.50) than the other age ranges who received a phone call about IEP meetings. Also, those in age range of 1-5 years with industry reflected a higher mean (M=2.16) for getting a phone call about IEP meetings. See table 95.

Table 95

I receive a phone call inviting me to IEP meetings.

How many years in industry?	N	Subset for alpha = 0.05	
		1	2
16-20	16	1.50	
11-15	26	1.81	1.81
6-10	35	1.86	1.86
20+	65	1.95	1.95
1-5	58		2.16
Sig.		.083	.291

The last demographic studied was the grand divisions of Tennessee and the score of p=.839 did not show any significant discrepancies between the statement and this group. See table 96.

Table 96

I receive a phone call inviting me to IEP meetings.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.185	2	.092	.175	.839
Within Groups	110.018	209	.526		
Total	110.203	211			

A final way to know about IEP meetings was not to be invited to the meetings. About three quarters of those surveyed either strongly disagreed (n=70, 33.2%) or disagreed (n=90, 42.7%) to not being invited to IEP meetings. However, there were some who agreed (n=38, 18.0%) or strongly agreed (n=13, 6.2%) that did not get invited to the meetings. See table 97.

Table 97

I am not invited to IEP meetings.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	70	30.6	33.2	33.2
	Disagree	90	39.3	42.7	75.8
	Agree	38	16.6	18.0	93.8
	Strongly agree	13	5.7	6.2	100.0
	Total	211	92.1	100.0	
Missing	System	18	7.9		
Total		229	100.0		

Although it may seem small that a total of 24.2% did not get invited to IEP meetings, this is a concern for SWD who do not get a CTE instructors' input. Additionally, the instructors cannot provide information about the program where the SWD will be attending. However, it is a good thing that 75.9% of those surveyed did get an invitation to meetings.

This study branched out to conduct ANOVA tests to determine if differences were revealed between the demographics surveyed and the statement about not being invited to IEP meetings. The results showed that there were no significant discrepancies in any of the demographics. According to gender a score of p=.099 was reported. See table 98. Then with age ranges, a score of p=.756 was determined. See table 99. Next in the population of educational levels the score of p=.436 was obtained. See 100. In reference to years of experience, the score of p=.515 was revealed. See table 101. Then the score of p=.888 was showed involving years working with industry. See table 102. Therefore, all groups and populations, except for grand divisions showed to be equal variances when ANOVA was analyzed.

Table 98

I am not invited to IEP meetings.

			Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	(Combined)		3.511	2	1.756	2.336	.099
	Linear Term	Unweighted	.238	1	.238	.317	.574
		Weighted	2.240	1	2.240	2.981	.086
		Deviation	1.271	1	1.271	1.691	.195
Within Groups			156.318	208	.752		
Total			159.829	210			

Table 99

I am not invited to IEP meetings.

			Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	(Combined)		1.454	4	.364	.473	.756
	Linear Term	Unweighted	.742	1	.742	.964	.327
		Weighted	.887	1	.887	1.154	.284
		Deviation	.567	3	.189	.246	.864
Within Groups			158.375	206	.769		
Total			159.829	210			

Table 100

I am not invited to IEP meetings.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	4.505	6	.751	.986	.436
Within Groups	155.325	204	.761		
Total	159.829	210			

Table 101

I am not invited to IEP meetings.

	Sum of Squares	df	Mean Square	F	Sig.

Between Groups	2.495	4	.624	.818	.515
Within Groups	156.386	205	.763		
Total	158.881	209			

Table 102

I am not invited to IEP meetings.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.881	4	.220	.285	.888
Within Groups	150.114	194	.774		
Total	150.995	198			

So, the last group was the grand divisions, which revealed a score of p=.029. See table 103. Which caused for the researcher to further investigate with the Tukey Post Hoc. This revealed those CTE instructors in middle Tennessee was less likely to (M=1.76) to not attend IEP meetings. However, west Tennessee was most likely to not attend an IEP meeting. See table 104. So, a significant discrepancy was discovered.

Table 103

I am not invited to IEP meetings.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	5.358	2	2.679	3.608	.029
Within Groups	154.471	208	.743		
Total	159.829	210			

Table 104

I am not invited to IEP meetings.

In which grand division of TN do you teach?	N	Subset for alpha = 0.05	
		1	2
Middle	59	1.76	
East	56	1.91	1.91
West	96		2.14
Sig.		.585	.292

In this survey, there were two open-ended questions. In the IEP team involvement section, there was the first of the open-ended questions. The question survey how CTE teacher would prefer to be notified about IEP meetings. Of the 229 respondents, 4 chose to reply to this

question. Due to the variations in the answers, those who got less than four answers were categorized as other.

Being notified by email led the data results (n=22, 50.0%) for preferred way to be notified about IEP meetings. The next indicator was to be notified in two ways through email and phone call or text (n=7, 15.9%), then hard copy of an invitation and not applicable both (n=4, 9.1%) received the same results. The ones that fell in the other category (n=, 15.9%) included replies such as, any type of notification, in-person invitation, by a supervisor, or depends on the circumstances. See table 105.

Table 105

How would you prefer to be notified about IEP meetings?

	Frequency	Percent	Valid Percent	Cumulative Percent
Email	22		50.0	50.0
Email and phone (two ways)	7		15.9	15.9
Hard copy	4		9.1	9.1
Not applicable	4		9.1	9.1
Other	7		15.9	15.9

Total	44	100.0

Another part to research question two pertains to how often CTE instructors attend IEP meetings. There were certain personnel who are required to attend IEP meetings for these meetings to be legal. However, all teachers who have SWD in class should be invited and attend as part of best practice for the students.

There was a certain amount of expectation for teachers to attend IEP meetings. However, teachers need to be informed ahead of time about the meeting. For this study, CTE instructors were surveyed to analyze the amount of attendance. The CTE educators who responded showed that a sizable percentage attended meetings in person. The results were as follows: strongly disagreed (n=16, 7.5%), disagreed (n=39, 18.4%), agreed (n=106, 50%), and strongly agreed (n=51, 24.1%). See table 106.

Table 106

I attend as many meetings as possible in person.

	Frequency	Percent	Valid Percent	Cumulative Percent

Valid	Strongly disagree	16	7.0	7.5	7.5
	Disagree	39	17.0	18.4	25.9
	Agree	106	46.3	50.0	75.9
	Strongly agree	51	22.3	24.1	100.0
	Total	212	92.6	100.0	
Missing	System	17	7.4		
Total		229	100.0		

With an overwhelming majority indicating that IEP meetings were attended in person, this study viewed the demographics to determine if this statement was biased within the populations. So, the groups were each evaluated by an ANOVA test. First, gender was revealed with a score of p=.067. See table 107. Then, age range had a score of p=.547 on this test. See table 108. Educational level was reported with a score of p=.709. See table 109. The next group viewed was years of experience in education and poised a score of p=.147 See table 110. Then years of experience with industry was compared to this statement and had a score of p=.336. See table 111.

Table 107

I attend as many meetings as possible in person.

			Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	(Combined)		3.893	2	1.947	2.745	.067
	Linear Term	Unweighted	.432	1	.432	.610	.436
		Weighted	2.196	1	2.196	3.097	.080
		Deviation	1.697	1	1.697	2.393	.123
Within Groups			148.220	209	.709		
Total			152.113	211			

Table 108

I attend as many meetings as possible in person.

			Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	(Combined)		2.225	4	.556	.768	.547
	Linear Term	Unweighted	.306	1	.306	.422	.516
		Weighted	.010	1	.010	.014	.905
		Deviation	2.214	3	.738	1.019	.385
Within Groups			149.889	207	.724		
Total			152.113	211			

Table 109

I attend as many meetings as possible in person.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2.741	6	.457	.627	.709
Within Groups	149.372	205	.729		
Total	152.113	211			

Table 110

I attend as many meetings as possible in person.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	4.869	4	1.217	1.717	.147
Within Groups	146.041	206	.709		
Total	150.910	210			

Table 111

I am given information from administration.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2.940	4	.735	1.147	.336
Within Groups	125.607	196	.641		
Total	128.547	200			

The final group evaluated was the grand divisions of Tennessee and attending as many meetings as possible. This score was reported to be p=.013, which shows a possible significant discrepancy. See table 112. Which led to analyzing the Tukey average means of the grand divisions. Those CTE instructors in the west division showed a lower mean (M=2.72) than the others attending as many meetings as possible in person. Consequently, the middle division had a higher mean (M=3.08) when surveyed about attending IEP meetings in person. See table 113.

Table 112

I attend as many meetings as possible in person.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	6.201	2	3.100	4.441	.013
Within Groups	145.912	209	.698		
Total	152.113	211			

Table 113

I attend as many meetings as possible in person.

TN Grand Divisions	N	Subset for alpha = 0.05	
		1	2
West	96	2.72	
East	57	3.04	3.04
Middle	59		3.08
Sig.		.076	.937

The next way to possibly attend meetings was by phone or due to COVID-19 some took place by ZOOM. Most surveyed did not attend meetings via phone conference or Zoom. The results showed that strongly disagreed (n=54, 35.6%) was lower, and disagreed (n=98, 46.4%) was higher. The respondents agreed (n=47, 22.3%) and strongly agreed (n=12, 5.7%) to attending meetings by phone or ZOOM were lower. See table 114.

Table 114

I attend as many meetings as possible by phone or Zoom conference.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	54	23.6	25.6	25.6
	Disagree	98	42.8	46.4	72.0
	Agree	47	20.5	22.3	94.3

	Strongly agree	12	5.2	5.7	100.0
	Total	211	92.1	100.0	
Missing	System	18	7.9		
Total		229	100.0		

After the frequencies and percentages were viewed, the researcher ran an ANOVA to compare the demographics and this statement. The demographic of gender showed a possible significant discrepancy with this statement. The score of p=.049 caused for the Tukey test to be evaluated. See table 115. The Tukey test showed that those who preferred not to disclose gender had a lower mean (M=1.50) than the males and females CTE instructors who attended IEP meetings by phone or Zoom. This Tukey results had to be analyzed differently due to an uneven distribution of gender groups, like previous tables. See table 116.

Table 115

I attend as many meetings as possible by phone or Zoom conference.

			Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	(Combined)		4.213	2	2.107	3.055	.049
	Linear Term	Unweighted	1.029	1	1.029	1.492	.223
		Weighted	4.137	1	4.137	6.001	.015
		Deviation	.076	1	.076	.110	.741
Within Groups			143.417	208	.690		
Total			147.630	210			

Table 116

I attend as many meetings as possible by phone or Zoom conference.

		Subset for alpha = 0.05
Gender	N	1

Prefer not to say	2	1.50
Female	111	1.96
Male	98	2.22
Sig.		.301

When the ANOVA data sets were reviewed, the following scores were reported. Age range had a score of p=.513. See table 117. Then educational levels showed a score of p=.945. See table 118. A score of p=.079 was reported for years of experience. See table 119. Regarding year of experience working with industry a score of p=.153 was determined. See table 120. With these scores reported, the state about attending meeting by phone or Zoom, and the surveyed demographics did not show any significant discrepancy.

Table 117

I attend as many meetings as possible by phone or Zoom conference.

			Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	(Combined)		2.315	4	.579	.820	.513
	Linear Term	Unweighted	.388	1	.388	.550	.459
		Weighted	.746	1	.746	1.057	.305
		Deviation	1.569	3	.523	.741	.528
Within Groups			145.315	206	.705		
Total			147.630	210			

Table 118

I attend as many meetings as possible by phone or Zoom conference.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.212	6	.202	.281	.945

Within Groups	146.418	204	.718		
Total	147.630	210			

Table 119

I attend as many meetings as possible by phone or Zoom conference.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	5.739	4	1.435	2.128	.079
Within Groups	138.189	205	.674		
Total	143.929	209			

Table 120

I attend as many meetings as possible by phone or Zoom conference.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	4.823	4	1.206	1.695	.153
Within Groups	137.961	194	.711		
Total	142.784	198			

However, one demographic did show a discrepancy between the statement of participating in IEP meeting by phone or Zoom and the grand divisions in Tennessee. Due to a score of p=.008 on the ANOVA, then the Tukey was evaluated more closely. See table 121. So, the Tukey revealed those in west Tennessee were less likely (M=1.89) to attend meetings by phone or Zoom compared to middle (M-2.24) or east (M=2.25). See table 122.

Table 121

I attend as many meetings as possible by phone or Zoom conference.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	6.713	2	3.356	4.954	.008
Within Groups	140.918	208	.677		
Total	147.630	210			

Table 122

I attend as many meetings as possible by phone or Zoom conference.

TN Grand Divisions	N	Subset for alpha = 0.05	
		1	2
West	96	1.89	
Middle	59		2.24
East	56		2.25
Sig.		1.000	.996

The next probable reason for attending IEP meetings by CTE instructors was only if there is a possible issue with a SWD. The CTE educators who strongly disagreed (n=16, 7.5%) and disagreed (n=39, 18.4%) which is on the low side and a cause for concern. The number who agreed (n=106, 50%) and strongly agreed (n=51, 24.1%) to attending only when there was an issue with SWD was on the high side. See table 123.

Table 123

I only attend meetings when informed there is a possible issue with a student with disabilities.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	50	21.8	23.7	23.7
	Disagree	102	44.5	48.3	72.0
	Agree	50	21.8	23.7	95.7
	Strongly agree	9	3.9	4.3	100.0
	Total	211	92.1	100.0	
Missing	System	18	7.9		
Total		229	100.0		

When the ANOVA test was analyzed about CTE instructors attending IEP meetings when there was a problem, and the demographics no significant discrepancies were determined. All the groups survey had scores higher than p=.05. In gender the score was p=.507. See table 124. Then the score with age range was .895. See table 125. Next educational levels scored p=.960. See table 126. Years of experience was the next group tallied, with a score of p=.740. See table 127. Another group was years working with industry and the score was p=.365. See table 128. The final score showed resulted in p=.884, which also showed no significant differences. See table 129.

Table 124

I only attend meetings when informed there is a possible issue with a student with disabilities.

			Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	(Combined)		.875	2	.438	.681	.507
	Linear Term	Unweighted	.759	1	.759	1.182	.278
		Weighted	.411	1	.411	.640	.425

		Deviation	.464	1	.464	.723	.396
Within Groups			133.589	208	.642		
Total			134.464	210			

Table 125

I only attend meetings when informed there is a possible issue with a student with disabilities.

			Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	(Combined)		.711	4	.178	.274	.895
	Linear Term	Unweighted	.022	1	.022	.033	.855
		Weighted	.194	1	.194	.299	.585
		Deviation	.517	3	.172	.265	.850
Within Groups			133.753	206	.649		
Total			134.464	210			

Table 126

I only attend meetings when informed there is a possible issue with a student with disabilities.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.973	6	.162	.248	.960
Within Groups	133.492	204	.654		
Total	134.464	210			

Table 127

I only attend meetings when informed there is a possible issue with a student with disabilities.

	Sum of Squares	df	Mean Square	F	Sig.

Between Groups	1.283	4	.321	.494	.740
Within Groups	133.174	205	.650		
Total	134.457	209			

Table 128

I only attend meetings when informed there is a possible issue with a student with disabilities.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2.765	4	.691	1.085	.365
Within Groups	123.607	194	.637		
Total	126.372	198			

Table 129

I only attend meetings when informed there is a possible issue with a student with disabilities.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.159	2	.079	.123	.884
Within Groups	134.306	208	.646		
Total	134.464	210			

The last possible choice to score was the CTE instructors did not attend IEP meetings. Most of the CTE educators strongly disagreed (n=76, 35.7%) or disagreed (n=83, 39.0%) with this statement. Therefore, most of CTE instructors surveyed do attend IEP meetings. However,

there was a percentage who did not attend meetings according to the data finding of agreed (n=41, 19.2%) and strongly agreed (n=13, 6.1%). See table 130.

Table 130

I do not attend IEP meetings.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	75	32.8	35.5	35.5
	Disagree	82	35.8	38.9	74.4
	Agree	41	17.9	19.4	93.8
	Strongly agree	13	5.7	6.2	100.0
	Total	211	92.1	100.0	
Missing	System	18	7.9		
Total		229	100.0		

Even though the frequencies showed most strongly disagreed or disagreed with the statement about not attending IEP meetings, the different demographics were compared in ANOVA test. This analysis of data showed results of comparing the demographics to not attending IEP meetings. The first result involving gender and not attending expressed the score of p=<.001, therefore a significant discrepancy was noted and caused for the Tukey test to be viewed. See table 131. The Tukey test showed those who preferred not to say had a significantly lower mean (M=1.50) to this statement compared to the males (M=1.71) and females (M=2.19). These results were due to gender groups not evenly distributed. See table 132.

Table 131

I do not attend IEP meetings.

	Sum of Squares	Df	Mean Square	F	Sig.

Between Groups	(Combined)		12.170	2	6.085	8.138	<.001
	Linear Term	Unweighted	.090	1	.090	.120	.729
		Weighted	9.689	1	9.689	12.958	<.001
		Deviation	2.481	1	2.481	3.318	.070
Within Groups			155.527	208	.748		
Total			167.697	210			

Table 132

I do not attend IEP meetings.

		Subset for alpha = 0.05
Gender	N	1
Prefer not to say	2	1.50
Male	98	1.71
Female	111	2.19
Sig.		.367

The next four demographics showed no significant discrepancy with the ANOVA scores. Age range scored revealed p=.388. See 133. Then educational levels showed the score of .780. See 134. Next the years of experience were evaluated showed a score of p=.085. See table 135. Years working in industry had a score of p=.970. See table 136.

Table 133

I do not attend IEP meetings.

			Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	(Combined)		3.316	4	.829	1.039	.388
	Linear Term	Unweighted	.087	1	.087	.109	.741
		Weighted	1.638	1	1.638	2.053	.153
		Deviation	1.678	3	.559	.701	.552
Within Groups			164.380	206	.798		

Total	167.697	210	

Table 134

I do not attend IEP meetings.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2.603	6	.434	.536	.780
Within Groups	165.094	204	.809		
Total	167.697	210			

Table 135

I do not attend IEP meetings.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	6.494	4	1.623	2.076	.085
Within Groups	160.273	205	.782		
Total	166.767	209			

Table 136

I do not attend IEP meetings.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.442	4	.111	.134	.970
Within Groups	159.478	194	.822		
Total	159.920	198			

The final demographic compared to this statement was grand divisions in Tennessee which showed a score of p=.003 which showed a difference. See table 137. Hence, the Tukey test was then evaluated for the specific area of discrepancy. This test showed those surveyed in west Tennessee had a higher mean (M=2.19) who do not attend IEP meetings than middle (M=1.76) and east (M=1.79) Tennessee CTE instructors. See table 138.

Table 137

I do not attend IEP meetings.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	8.965	2	4.483	5.874	.003
Within Groups	158.732	208	.763		
Total	167.697	210			

Table 138

I do not attend IEP meetings.

TN Grand Divisions	N	Subset for alpha = 0.05	
		1	2
Middle	59	1.76	
East	56	1.79	

West	96		2.19
Sig.		.987	1.000

Research Question Three Data

Research question three was “How are CTE instructors provided with in-service or training sessions regarding how to implement goals and accommodations in IEP for students with disabilities?” This question included the section concerning implementation. CTE instructors need training to implement the goals and accommodations of an IEP. This part of the survey gauges the amount of training provided for CTE educators in Tennessee. As with the other questions, 213 of the 229 participants chose to respond to this set of statements.

The first statement in this section related to CTE instructors receiving training sessions on how to implement the transitional goals and accommodations of an IEP. Those who disagreed (n=100, 48.5%) and agreed (n=68, 33.0%) were the two responses of closest percentages. The other possible responses strongly disagreed (n=32, 15.5%) was in third place and strongly agreed (n=6, 2.9%) got the lowest responses. Therefore, this shows many CTE educators were not professionally trained about implementation of an IEP. See table 139.

Table 139

I am required to attend specific trainings on how to implement the transitional goals and accommodations of an IEP.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	32	14.0	15.5	15.5

	Disagree	100	43.7	48.5	64.1
	Agree	68	29.7	33.0	97.1
	Strongly agree	6	2.6	2.9	100.0
	Total	206	90.0	100.0	
Missing	System	23	10.0		
Total		229	100.0		

When analyzing the implementation section of this study, the researcher ran an ANOVA to review the data in a deeper level. These scores did not show any type of differences with this data set. In the comparison between gender and the sentence about being required to attend specific trainings, the ANOVA score of p=.053 was gathered. See table 140. The age range score was p=.518. See table 141. Next educational levels of the CTE instructors resulted in a p=.137. See table 142. Years of experience was viewed next with a score of p=.703. See 143. Another score was p=.202 in years of working in industry. See table 144. Last area evaluated was grand divisions in Tennessee with a score of p=.563. See table 145.

Table 140

I am required to attend specific trainings on how to implement the transitional goals and accommodations of an IEP.

	Sum of Squares	Df	Mean Square	F	Sig.

Between Groups	(Combined)		3.228	2	1.614	2.990	.053
	Linear Term	Unweighted	1.418	1	1.418	2.628	.107
		Weighted	2.874	1	2.874	5.324	.022
		Deviation	.354	1	.354	.655	.419
Within Groups			109.588	203	.540		
Total			112.816	205			

Table 141

I am required to attend specific trainings on how to implement the transitional goals and accommodations of an IEP.

			Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	(Combined)		1.796	4	.449	.813	.518
	Linear Term	Unweighted	.001	1	.001	.001	.973
		Weighted	.882	1	.882	1.597	.208
		Deviation	.914	3	.305	.552	.648
Within Groups			111.020	201	.552		
Total			112.816	205			

Table 142

I am required to attend specific trainings on how to implement the transitional goals and accommodations of an IEP.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	5.329	6	.888	1.644	.137
Within Groups	107.486	199	.540		
Total	112.816	205			

Table 143

I am required to attend specific trainings on how to implement the transitional goals and accommodations of an IEP.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.210	4	.302	.545	.703
Within Groups	111.015	200	.555		
Total	112.224	204			

Table 144

I am required to attend specific trainings on how to implement the transitional goals and accommodations of an IEP.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3.345	4	.836	1.509	.201
Within Groups	104.778	189	.554		
Total	108.124	193			

Table 145

I am required to attend specific trainings on how to implement the transitional goals and accommodations of an IEP.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.637	2	.318	.576	.563
Within Groups	112.179	203	.553		
Total	112.816	205			

The next statement in this section surveyed CTE instructors attending optional trainings offered by the school district pertaining to implementation of an IEP. The largest group disagreed (n=105, 50.7%) with this statement. Agreed (n=67, 32.4%) was in second place pertaining to attending optional training. Strongly disagreed (n=29, 14.0%) was in third place

with strongly agreed (n=6, 2.9%) in the lowest group. With the largest group disagreeing with 50.7% of respondents, this shows a lack of initiative on the part of CTE educators or systems not providing optional guidance. See table 146.

Table 146

I attend optional trainings offered by my district pertaining to implementation of an IEP.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	29	12.7	14.0	14.0
	Disagree	105	45.9	50.7	64.7
	Agree	67	29.3	32.4	97.1
	Strongly agree	6	2.6	2.9	100.0
	Total	207	90.4	100.0	
Missing	System	22	9.6		
Total		229	100.0		

During this study, the research took the data from the demographics and compared to the sentence about attending optional trainings from implementation of an IEP. The only demographic that showed a discrepancy was the area of gender. With and ANOVA score of p=.010, then the Tukey test was analyzed. See table 147. With a mean (M=1.50) lower than the others, those who preferred not to state gendered were less likely to attend optional trainings. The males (M-2.39) and females (M=2.13) showed to be more likely to attend optional trainings. The Tukey did not show multiple columns for discrepancies due to uneven distributions of gender groups. See table 148.

Table 147

I attend optional trainings offered by my district pertaining to implementation of an IEP.

			Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	(Combined)		4.752	2	2.376	4.698	.010
	Linear Term	Unweighted	1.564	1	1.564	3.092	.080
		Weighted	4.517	1	4.517	8.932	.003
		Deviation	.235	1	.235	.465	.496
Within Groups			103.170	204	.506		
Total			107.923	206			

Table 148

I attend optional trainings offered by my district pertaining to implementation of an IEP.

		Subset for alpha = 0.05
Gender	N	1
Prefer not to say	2	1.50
Female	111	2.13
Male	94	2.39
Sig.		.085

When this statement was compared to the other demographics, no significant discrepancies were revealed. The age range score was p=.859. See table 149. The different educational levels disclosed a score of p=.320. See table 150. Then year of experience in education displayed score of p=.443. See table 151. Next, number of years working with industry tallied a p=.711. See table 152. Finally, the grand divisions recorded a p=.992. See table 153.

Table 149

I attend optional trainings offered by my district pertaining to implementation of an IEP.

			Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	(Combined)		.697	4	.174	.328	.859
	Linear Term	Unweighted	.024	1	.024	.046	.831
		Weighted	.001	1	.001	.002	.964
		Deviation	.696	3	.232	.437	.727
Within Groups			107.225	202	.531		
Total			107.923	206			

Table 150

I attend optional trainings offered by my district pertaining to implementation of an IEP.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3.682	6	.614	1.177	.320
Within Groups	104.241	200	.521		
Total	107.923	206			

Table 151

I attend optional trainings offered by my district pertaining to implementation of an IEP.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.967	4	.492	.938	.443
Within Groups	105.377	201	.524		
Total	107.345	205			

Table 152

I attend optional trainings offered by my district pertaining to implementation of an IEP.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.142	4	.286	.534	.711
Within Groups	101.545	190	.534		
Total	102.687	194			

Table 153

I attend optional trainings offered by my district pertaining to implementation of an IEP.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.008	2	.004	.008	.992
Within Groups	107.915	204	.529		
Total	107.923	206			

The third statement inquired about CTE instructors attending training provided by the special education department in the districts where employed. Once again, the disagree and agree responses had the strongest returns. Those who disagreed (n=97, 47.1%) came in first place for getting training from special education department. In second place, those who agreed (n=76, 36.9%) that did attend training pertaining to implementation of IEPs. Strongly disagreed (n=23, 11.2%) came in third and strongly agreed (n=10, 4.9) came in last. See table 154.

Table 154

I attend training from my district's special education department.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	23	10.0	11.2	11.2
	Disagree	97	42.4	47.1	58.3
	Agree	76	33.2	36.9	95.1
	Strongly agree	10	4.4	4.9	100.0
	Total	206	90.0	100.0	
Missing	System	23	10.0		
Total		229	100.0		

Regarding attending training by the CTE instructors special education department, two areas showed significant discrepancies when ANOVA was analyzed. In the area of gender, the score of p=.020 signified a difference. See table 155. Therefore, the Tukey test was evaluated on the gender population. The Tukey did not show multiple columns for discrepancies due to uneven distributions of gender groups. However, the data can still be used to describe a discrepancy when looking at the individual means. The Tukey test determined that the ones who preferred not to state gender had a lower mean (M=1.50) pertaining to attending training from the special education department. The females (M=2.25) and males (M=2.49) depicted to be more likely to attend training from special education personnel. See table 156.

Table 155

I attend training from my district's special education department.

			Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	(Combined)		4.269	2	2.134	3.980	.020
	Linear Term	Unweighted	1.917	1	1.917	3.575	.060
		Weighted	3.775	1	3.775	7.040	.009
		Deviation	.494	1	.494	.921	.338
Within Groups			108.862	203	.536		
Total			113.131	205			

Table 156

I attend training from my district's special education department.

		Subset for alpha = 0.05
Gender	N	1
Prefer not to say	2	1.50
Female	110	2.25
Male	94	2.49
Sig.		.059

Neither age range nor educational levels showed a significant discrepancy according to the ANOVA. The score for age range was p=.126. See table 157. Then the score for educational levels was p=.344, so this depicts the groups were on an equal level in reference to means. See table 158.

Table 157

I attend training from my district's special education department.

			Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	(Combined)		3.963	4	.991	1.824	.126
	Linear Term	Unweighted	.039	1	.039	.071	.790
		Weighted	2.494	1	2.494	4.591	.033
		Deviation	1.469	3	.490	.902	.441
Within Groups			109.168	201	.543		
Total			113.131	205			

Table 158

I attend training from my district's special education department.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3.738	6	.623	1.133	.344
Within Groups	109.393	199	.550		
Total	113.131	205			

The other areas to show a difference was in years of experience in education. The ANOVA test revealed a score of p=.045. See table 159. So, the Tukey test was evaluated more closely. This test revealed those in education for one to five years was less likely (M=2.15) to attend training from the special education department. Consequently, those with 20+ years of experience had a significantly higher mean to attend training by special education personnel. See table 160.

Table 159

I attend training from my district's special education department.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	5.339	4	1.335	2.486	.045
Within Groups	107.373	200	.537		
Total	112.712	204			

Table 160

I attend training from my district's special education department.

Years in Education	N	Subset for alpha = 0.05	
		1	2
1-5	47	2.15	
6.10	40	2.30	2.30
11-15	44	2.34	2.34
16-20	29	2.34	2.34
20+	45		2.62
Sig.		.756	.289

The next two areas did not show a significant difference. The population of years working with industry expressed a score of p=.833. See table 161. Then the grand divisions of Tennessee shared a score of p=.458. See table 162.

Table 161

I attend training from my district's special education department.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.821	4	.205	.365	.833
Within Groups	106.194	189	.562		
Total	107.015	193			

Table 162

I attend training from my district's special education department.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.867	2	.434	.784	.458
Within Groups	112.264	203	.553		
Total	113.131	205			

The final statement to be surveyed in this section was the CTE instructors do not get any type of training concerning implementing IEP goals. Once again, there was a split between disagreed (n=92, 44.4%) and agreed (n=69, 33.3%) about not attending any training. The other results were as follows: strongly disagreed (n=27, 13.0%), strongly agreed (n=19, 9.2%) who did not attend IEP training. See table 163.

Table 163

I do not get any type of training concerning implementing IEP goals.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	27	11.8	13.0	13.0
	Disagree	92	40.2	44.4	57.5
	Agree	69	30.1	33.3	90.8
	Strongly agree	19	8.3	9.2	100.0
	Total	207	90.4	100.0	
Missing	System	22	9.6		

Total	229	100.0

Regarding evaluating the data between gender and this statement of getting no training for implementation, the AVOVA results did show significant discrepancies between the two. The sore of p=.005 caused for the Tukey test to be viewed. See table 164. In reference to the Tukey test, CTE male instructors had a lower mean (M=2.21) than those who preferred not to state gender (M=3.50) pertaining to receiving no training implementation when work with SWD. See table 165.

Table 164

I do not get any type of training concerning implementing IEP goals.

			Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	(Combined)		7.108	2	3.554	5.411	.005
	Linear Term	Unweighted	3.245	1	3.245	4.941	.027
		Weighted	6.248	1	6.248	9.513	.002
		Deviation	.860	1	.860	1.310	.254
Within Groups			133.974	204	.657		
Total			141.082	206			

Table 165

I do not get any type of training concerning implementing IEP goals.

		Subset for alpha = 0.05	
Gender	N	1	2
Male	94	2.21	
Female	111	2.51	2.51
Prefer not to say	2		3.50

Sig.	.804	.099

When the other groups of demographics were viewed compared to this statement, there was no significant differences discovered. The table with age range score p=.092. See table 166. The levels of education score were p=.577. See table 167. Next table was years of experience in education with a score of p=.349. See table 168. Then years working in industry had a result of p=.792. See table 169. The next group of grand divisions scored a p=.493. See table 170.

Table 166

I do not get any type of training concerning implementing IEP goals.

			Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	(Combined)		5.436	4	1.359	2.024	.092
	Linear Term	Unweighted	.453	1	.453	.674	.413
		Weighted	4.050	1	4.050	6.031	.015
		Deviation	1.386	3	.462	.688	.560
Within Groups			135.646	202	.672		
Total			141.082	206			

Table 167

I do not get any type of training concerning implementing IEP goals.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3.276	6	.546	.792	.577
Within Groups	137.806	200	.689		
Total	141.082	206			

Table 168

I do not get any type of training concerning implementing IEP goals.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3.030	4	.757	1.118	.349
Within Groups	136.121	201	.677		
Total	139.150	205			

Table 169

I do not get any type of training concerning implementing IEP goals.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.195	4	.299	.422	.792
Within Groups	134.476	190	.708		
Total	135.672	194			

Table 170

I do not get any type of training concerning implementing IEP goals.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.974	2	.487	.709	.493
Within Groups	140.108	204	.687		
Total	141.082	206			

In the implementation section was the last open-ended question. The question surveyed what could be put into action to increase CTE instructors understanding of the IEP implementation process. Of the 229 respondents, 115 chose to reply to this question. Due to the variations in the answers, those who got less than five answers were categorized as other.

In first place, CTE instructors requested more annual training or professional development (n=41, 35.7%). The next action indicated was more clear communication (n=20, 17.4%), then not applicable (n=14, 12.2%) was close to communication. Some CTE teachers wanted a visual aid of strategies and breakdown of an IEP (n=19, 16.5), There were a few CTE instructors who understood the process (n=8, 7%). The ones that fell in the other category (n=13, 11.2) included comments such as, clarification of disabilities, provided adapted lesson plans, online support, or to stop the drive by IEP sign only way. See table 171.

Table 171

What could be put into action to increase your understanding of the IEP implementation process?

	Frequency	Percent	Valid Percent	Cumulative Percent
More trainings or PD	41		35.7	35.7
Clear communication	20		17.4	17.4
Not applicable	14		12.2	12.2
Visual aid	19		16.5	16.5
Understand IEP process	8		7.0	7.0
Other	13		11.2	

Research Question Four Data

Research question four was “What are the perceptions of CTE instructors for their responsibility in collaborating with stakeholders for student to meet success in CTE programs?” Collaboration was the focus of this research question. Those working with SWD collaborate with other team members, but also other community partners for SWD to meet success. This part of the survey looked at the collaboration part with CTE educators in Tennessee. Once again, 213 of the 229 participants chose to respond to this set of statements.

The first statement to respond to in the collaboration section of this study refers to CTE educators initiating meeting with special education teachers about best practices for SWD. With a solid response, agree (n=129, 62.9%) dominated this sentence. Over half of CTE teachers meet with special education teachers about SWD. In second place was disagreed (n=49, 23.9%) to meeting with special education teachers. Next was strongly agreed (n=22, 10.7%) and last was strongly disagreed (n=5, 2.4%) when talking with special education teachers was surveyed. See table 172.

Table 172

I take the initiative to meet with special education teachers about best practices for students with disabilities.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	5	2.2	2.4	2.4
	Disagree	49	21.4	23.9	26.3
	Agree	129	56.3	62.9	89.3
	Strongly agree	22	9.6	10.7	100.0
	Total	205	89.5	100.0	
Missing	System	24	10.5		
Total		229	100.0		

When analyzing data from demographics and section about collaboration, there were no significant differences discovered in any of the statements surveyed. The CTE instructors participating in this study showed the following scores: gender p=.600, age range p=.711, educational levels p=.103, years of experience in education p=.172, years of experience with industry p=.135, and grand divisions in Tennessee (p=.629). Gender table see table 173. See table 174. Education levels table see table 175. Years of experience in education see table 176. Years working in industry see table 177. Grand divisions in Tennessee see table 178.

Table 173

I take the initiative to meet with special education teachers about best practices for students with disabilities.

			Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	(Combined)		.426	2	.213	.513	.600
	Linear Term	Unweighted	.162	1	.162	.389	.534
		Weighted	.105	1	.105	.252	.616
		Deviation	.321	1	.321	.773	.380
Within Groups			83.896	202	.415		
Total			84.322	204			

Table 174

I take the initiative to meet with special education teachers about best practices for students with disabilities.

			Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	(Combined)		.891	4	.223	.534	.711
	Linear Term	Unweighted	.163	1	.163	.390	.533
		Weighted	.267	1	.267	.640	.425
		Deviation	.624	3	.208	.499	.684
Within Groups			83.431	200	.417		
Total			84.322	204			

Table 175

I take the initiative to meet with special education teachers about best practices for students with disabilities.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	4.339	6	.723	1.790	.103
Within Groups	79.983	198	.404		
Total	84.322	204			

Table 176

I take the initiative to meet with special education teachers about best practices for students with disabilities.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.279	4	.320	.767	.548
Within Groups	83.010	199	.417		
Total	84.289	203			

Table 177

I take the initiative to meet with special education teachers about best practices for students with disabilities.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2.875	4	.719	1.776	.135
Within Groups	76.511	189	.405		
Total	79.387	193			

Table 178

I take the initiative to meet with special education teachers about best practices for students with disabilities.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.387	2	.193	.465	.629
Within Groups	83.935	202	.416		
Total	84.322	204			

Regarding collaboration, the next statement on the survey was to gauge if CTE educators communicate with outside agencies to meet transition goals for SWD. A vital component of an IEP is transitioning into the adult world with transition goals. CTE instructors disagreed (n=121, 59.3%) with this statement. Those who agreed (n=41, 20.1%) and strongly disagreed (n=38, 18.6%) only had a three-response difference. The last pertaining to this statement was strongly agreed (n=4, 2.0%). See table 179.

Table 179

I communicate with outside agencies to meet transition goals for students with disabilities.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	38	16.6	18.6	18.6
	Disagree	121	52.8	59.3	77.9
	Agree	41	17.9	20.1	98.0
	Strongly agree	4	1.7	2.0	100.0
	Total	204	89.1	100.0	
Missing	System	25	10.9		
Total		229	100.0		

When the ANOVA test was evaluated, these demographics and the statement about communicating with outside agencies did not show significant discrepancies. The area of gender scored p=.077. See table 180. Next the age range groups tallied a score of p=.916. See table 181. Then the education levels showed a score of p=.352. See table 182. The group of years of experience disclosed a score of p=.390. See table 183. Then the population of years working with industry ranked a p=.195. See table 184. Lastly, the grand divisions of Tennessee scored p=.167. See table 185.

Table 180

I communicate with outside agencies to meet transition goals for students with disabilities.

			Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	(Combined)		2.384	2	1.192	2.603	.077
	Linear Term	Unweighted	.852	1	.852	1.861	.174
		Weighted	2.236	1	2.236	4.883	.028

		Deviation	.148	1	.148	.324	.570
Within Groups			92.023	201	.458		
Total			94.407	203			

Table 181

I communicate with outside agencies to meet transition goals for students with disabilities.

			Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	(Combined)		.451	4	.113	.239	.916
	Linear Term	Unweighted	.007	1	.007	.015	.901
		Weighted	.046	1	.046	.098	.755
		Deviation	.404	3	.135	.285	.836
Within Groups			93.956	199	.472		
Total			94.407	203			

Table 182

I communicate with outside agencies to meet transition goals for students with disabilities.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3.114	6	.519	1.120	.352
Within Groups	91.293	197	.463		
Total	94.407	203			

Table 183

I communicate with outside agencies to meet transition goals for students with disabilities.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.916	4	.479	1.036	.390
Within Groups	91.591	198	.463		
Total	93.507	202			

Table 184

I communicate with outside agencies to meet transition goals for students with disabilities.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2.772	4	.693	1.532	.195
Within Groups	85.062	188	.452		
Total	87.834	192			

Table 185

I communicate with outside agencies to meet transition goals for students with disabilities.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.666	2	.833	1.805	.167
Within Groups	92.741	201	.461		
Total	94.407	203			

The final statement on the survey was about CTE educators meeting with students and parents to develop a plan for how their program can best meet their needs. As with other sentences, disagreed (n=86, 42.2%) and agreed (n=85, 41.7%) were close with responses. Those

who strongly disagreed (n=22, 10.8%) and strongly agreed (n=11, 5.4%) were in the bottom half of the replies. See table 186.

Table 186

I meet with students and parents to develop a plan for how my program can best meet their needs.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	22	9.6	10.8	10.8
	Disagree	86	37.6	42.2	52.9
	Agree	85	37.1	41.7	94.6
	Strongly agree	11	4.8	5.4	100.0
	Total	204	89.1	100.0	
Missing	System	25	10.9		
Total		229	100.0		

When comparing the demographics and if the CTE instructors collaborated with students and parents there were some significant differences found in the data. The ANOVA with gender showed a score of p=<.001. See table 187. This caused for the Tukey test to be analyzed for more specific findings. Those who preferred not to state gender had a lower mean (M=1.50), where male CTE instructors had a larger mean (M=2.66). See table 188. So male CTE instructors were more likely to meet with students and parents than those who chose not to disclose gender.

Table 187

I meet with students and parents to develop a plan for how my program can best meet their needs.

			Sum of Squares	df	Mean Square	F	Sig.
Between Groups	(Combined)		11.310	2	5.655	10.901	<.001
	Linear Term	Unweighted	2.633	1	2.633	5.076	.025
		Weighted	11.162	1	11.162	21.516	<.001
		Deviation	.148	1	.148	.286	.594
Within Groups			104.273	201	.519		
Total			115.583	203			

Table 188

I meet with students and parents to develop a plan for how my program can best meet their needs.

		Subset for alpha = 0.05	
Gender	N	1	2
Prefer not to say	2	1.50	
Female	108	2.22	2.22
Male	94		2.66
Sig.		.206	.558

In reference to age range, the score of p=.923 did not show a significant difference. See table 189.

Table 189

I meet with students and parents to develop a plan for how my program can best meet their needs.

			Sum of Squares	df	Mean Square	F	Sig.
Between Groups	(Combined)		.526	4	.132	.228	.923
	Linear Term	Unweighted	.331	1	.331	.573	.450
		Weighted	.064	1	.064	.111	.740
		Deviation	.462	3	.154	.267	.849
Within Groups			115.057	199	.578		
Total			115.583	203			

However, when the researcher looked at the data from the ANOVA and educational levels of CTE instructors, this reflected significant discrepancies with a score of p=.027. See table 190. So, the Tukey test was evaluated more closely. Even with groups of educational levels not evenly distributed, the researcher looked at the means for possible differences. This test showed discrepancies between those with an associate degree (M=2.11) and those with an occupational certificate (M=2.67) and other (M=2.89) who met with students and parents. See table 191. The other group all responded the degree held was an educational specialist. So, this group showed to be the most likely to meet with students and parents about the student's needs.

Table 190

I meet with students and parents to develop a plan for how my program can best meet their needs.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	7.990	6	1.332	2.438	.027
Within Groups	107.593	197	.546		
Total	115.583	203			

Table 191

I meet with students and parents to develop a plan for how my program can best meet their needs.

		Subset for alpha = 0.05
Educational Level	N	1
Associates Degree	19	2.11
MA/MS	58	2.24
HS Diploma or Equivalent	7	2.29
PhD/EdD	11	2.36
BA/BS	76	2.51
Occupational Certificate	24	2.67
Other	9	2.89
Sig.		.063

In the last three groups, the scores reflected no significant differences. With years of experience the score was p=.202. See table 192. Then years working with industry showed p=.789. See table 193. The grand divisions of Tennessee had a score of p=.766. See table 194.

Table 192

I meet with students and parents to develop a plan for how my program can best meet their needs.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3.403	4	.851	1.506	.202
Within Groups	111.839	198	.565		
Total	115.241	202			

Table 193

I meet with students and parents to develop a plan for how my program can best meet their needs.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.933	4	.233	.426	.789
Within Groups	102.849	188	.547		
Total	103.782	192			

Table 194

I meet with students and parents to develop a plan for how my program can best meet their needs.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.306	2	.153	.267	.766
Within Groups	115.278	201	.574		
Total	115.583	203			

When looking at the frequencies of the statement about not meeting the any stakeholders involved with SWD, the majority either strongly disagree or disagreed (n=142, 69.6%). However, about a third either agreed or strongly agreed with this statement (n=62, 30.4%). See table 195.

Table 195

I do not meet with any of the stakeholders pertaining to students with disabilities in my CTE program.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	37	16.2	18.1	18.1
	Disagree	105	45.9	51.5	69.6
	Agree	56	24.5	27.5	97.1
	Strongly agree	6	2.6	2.9	100.0
	Total	204	89.1	100.0	
Missing	System	25	10.9		
Total		229	100.0		

Regarding the comparison of the surveyed demographics and CTE instructors not meeting with stakeholders about SWD, there were no significant discrepancies discovered. The first area of gender had a score of p=.055. See table 196. Second group was age range rated a score of p=993. See table 197. The third population was educational levels of surveyed CTE instructors which scored p=.909. See table 198. Fourth group to be surveyed was the area of years of experience in education which scored p=.105. See table 199. The fifth demographic was years of experience working with industry and reflected a score of p=.647. See table 200. Lastly, was the population of the grand divisions of Tennessee with a score of p=.280. See table 201.

Table 196

I do not meet with any of the stakeholders pertaining to students with disabilities in my CTE program.

			Sum of Squares	df	Mean Square	F	Sig.
Between Groups	(Combined)		3.195	2	1.598	2.943	.055
	Linear Term	Unweighted	1.793	1	1.793	3.304	.071
		Weighted	2.572	1	2.572	4.738	.031
		Deviation	.624	1	.624	1.149	.285
Within Groups			109.094	201	.543		
Total			112.289	203			

Table 197

I do not meet with any of the stakeholders pertaining to students with disabilities in my CTE program.

			Sum of Squares	df	Mean Square	F	Sig.
Between Groups	(Combined)		.135	4	.034	.060	.993
	Linear Term	Unweighted	.045	1	.045	.080	.778
		Weighted	.000	1	.000	.000	.982
		Deviation	.135	3	.045	.080	.971
Within Groups			112.154	199	.564		
Total			112.289	203			

Table 198

I do not meet with any of the stakeholders pertaining to students with disabilities in my CTE program.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.189	6	.198	.351	.909
Within Groups	111.101	197	.564		
Total	112.289	203			

Table 199

I do not meet with any of the stakeholders pertaining to students with disabilities in my CTE program.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	4.215	4	1.054	1.944	.105
Within Groups	107.351	198	.542		
Total	111.567	202			

Table 200

I do not meet with any of the stakeholders pertaining to students with disabilities in my CTE program.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.383	4	.346	.622	.647
Within Groups	104.554	188	.556		
Total	105.938	192			

Table 201

I do not meet with any of the stakeholders pertaining to students with disabilities in my CTE program.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.414	2	.707	1.282	.280
Within Groups	110.875	201	.552		
Total	112.289	203			

Summary

The research investigated preparation and involvement of CTE instructors with SWD to meet success. Due to most CTE educators not participating in traditional teacher preparation programs, the knowledge of how to work with SWD was more challenging (Haber & Sutherland, 2008). Therefore, this study looked at demographics, receiving information, IEP team involvement, implementation, and collaboration. The guidance for this study was Research Question one, Research Question two, Research Question three, and Research Question four.

The survey participants provided demographic information that included gender, age range, education level, years in education, years in industry, and which grand division of Tennessee respondents were located. Then the respondents replied to statements pertaining to information, involvement, implementation, and collaboration. The data in all these sections suggested there were positive results, but also concerns were noted. In chapter V, more detailed conclusions will be shared.

Chapter V: Conclusion and Discussion

Overview

The purpose of this study was to explore the preparation of career and technical education (CTE) instructors when teaching students with disabilities (SWD). In addition, this project gauged the amount of involvement CTE educators had in the individual education program (IEP) team process, training implementation, and stakeholders. The results could reveal changes for SWD to be successful in CTE courses and the workforce.

Chapter V reveal conclusions from the findings in chapter IV. This chapter included conclusions, discussions, practical significance, P-20 implications, and limitations of the study. The data shared in this chapter also presented recommendation for further research.

Conclusions

The data gathered from this survey was divided into sections. A four-point Likert option was used, but two open-ended questions were included in the survey. Qualtrics was used to disperse the survey and with the data collection.

Research question one data was focused on the section pertaining to receiving information. Encompassed in this was the personnel who was responsible for CTE instructors knowing and having information about SWD. The data showed majority got some type of information about IEP was shared with CTE instructors. However, a larger enough percentage shared needed a review of how information was received. When analysis with variance (ANOVA) test was analyzed, some discrepancies were discovered in gender, educational levels, and industry levels.

Research question two covered IEP team involvement in reference to how CTE instructors were notified of IEP meetings. This section included an opened-ended question as to any preferences to how received notification. A second part to research question two analyzed how often CTE instructors attended IEP team meetings. Both statements revealed majority got invited or attended in some capacity. However, there were concerns with CTE instructors who got no invitation, attended only when there was an issue, and those who did not attend. In question two, ANOVA showed some differences with gender, industry experience, and the grand divisions.

Research question three pertained to CTE educators being exposed on how to implement goals and accommodations for SWD. This section of the survey gathered data about required, optional, special education training, and no training offer to CTE instructors. This was the second part that included an open-ended question about action that could be put into place for increased understanding for IEP implementation. The area of training data revealed even more

concerns than the previous research question. Data revealed training options or the lack of raises great concerns for CTE instructors and SWD. Gender and grand divisions revealed differences with this question.

This study had a final research question four, which pertained to perceptions of CTE instructors responsibility of collaborating with stakeholders. When working with SWD collaboration of the IEP team members and community stakeholders was part of the success with SWD. This data covered communicating with special education personnel, parent, students, and outside agencies. The data showed more collaborating happens with special education personnel that the other parties listed. Additionally, the data pointed to discrepancies with gender and educational levels.

Relations of Conclusions to other research

During research of the topic CTE instructors being successful with SWD, being prepared and involved were key components. Regarding training, CTE instructors received different preparation than those in traditional education programs. Therefore, CTE educators involvement in the IEP process had a correlation to success for SWD. So, CTE instructors who lacked knowledge about collaboration with stakeholders was impeding success for SWD. The next section, previous investigations will be linked to the research data collected in this study.

Communication and collaboration

Schmalzried (2010) completed a dissertation studying the areas of communication and collaboration between high school CTE teachers, special education personnel, and guidance counselors who work with SWD. The programs studied were stand-alone CTE schools. The three groups agreed that IEPs were sent to the centers. However, CTE educators were not aware

of how or when the information was delivered. This study showed CTE educators got finalized IEP (64.3%) received an IEP-at-a-glance (85.9%), obtained information through email (55.0%), or had no information about an IEP (12.7%). The final percentage may seem small, however was noteworthy in this project. The data 12.7% of SWD CTE instructors got no information pertaining to accommodations or modification for SWD to meet success. Additionally, Hall (2007) noted that several CTE educators were not aware of SWD or the existence of IEPs.

Regarding whom was responsible for sharing special education information, Schmalzried (2010) found where CTE teachers were unsure who was responsible. Also, special education teachers and guidance counselors each thought it was the respective positions responsibility. The current study found special education teachers (69.5%), guidance counselors (49.3%), lead teachers (36.2%) or administrators (47.9%) were found responsible for sharing information with CTE educators. This would be and area if CTE preparation programs required a focus on SWD, then CTE educators would know who to expect to obtain IEP information. Stephens (2015) even found when no imperative changes in the last 25 years in Michigan's teachers certification code.

Consistently in the literature, communication and collaboration spanned to affect all areas so success would be met with SWD. Essential to this process was fluid regular communication between CTE educators and special education teachers (Harvey, et al 2020). One of the many ways for implementation of effective communication was to in in attendance at IEP meetings. Schmalzried & Harvey (2014) found both groups needed to use each all types of expertise working together for SWD to meet maximum success.

Attendance to IEP meets was crucial for a great line of communication of CTE instructors and special education teachers. In this current study, 74.1% either agreed or strongly agreed to attending as many IEP meetings as possible. Those who attended via phone or Zoom

conference was only 28%. In the survey the next statement was CTE instructors only attend when there was a possible issue with SWD. A shocking margin of 74.1% agreed to this statement. The last statement on the survey was CTE educators do not attend IEP meetings. Even though a smaller percentage than attended in person, 25.3% noted no attendance to IEP meetings. Attendance to IEP meeting established one of the first steps of effective communication and collaboration. This could be the first steps to establishing mentoring between the two groups (Haber, 2008).

CTE Educator Preparation

With the implementation of Perkins IV, more professional development to effect instruction and teachers' performance to attain student achievement was required (Sturko, 2015). Therefore, changes had to be made to obtain federal funding. However, the changes continued to see a shortage of qualified CTE teachers (McCandess & Sauer, 2010). Hence, some states chose to implement alternative teacher licenses for CTE programs. States realized to attract effective future CTE teachers, teaching requirements needed to be more reasonable (Jaques & Potemski, 2014).

Michigan and Tennessee were two states the literature showed provided alternative licensure. Some of the requirements in Tennessee was to attend and pass educator preparation program of 12 college credit hours across three years while teaching. Additionally, a five-day CTE new teacher training was required (TSBE, 2021). These requirements barely touched on the implementation or working with SWD.

Therefore, this study looked at training for implementation once CTE teachers in Tennessee were in classrooms with SWD. The first statement surveyed those who attended optional trainings offered by district pertaining to implementation of an IEP. Unfortunately, only 35.3% either agreed or strongly agreed to attending optional trainings. The next survey statement pertained to attending training from the district's special education department. Even though it was larger than optional trainings, only 41.8% either agreed or strongly agreed. The final statement was concerning no training about implementing IEP goals. All these statements were close in agree and strongly agreed answers with a percentage of 42.5%. Since the literature showed CTE educators were not required classes as those in regular education preparation program, then training was needed from the district level.

Stakeholder communication

Part of an IEP for SWD was the transition services. At the age of 14 SWD had statements included in the IEP. Then at age of 16 and above there were transition services and goal required in the IEP (IDEA, 2004). Since this addition, SWD needed more gateways to provide postsecondary or entering the work force. So, when Strengthening Career and Technical Education for the 21st Century was passed CTE programs of study would be considered part of transition services (Harvey et al, 2020). Hence, the need for more collaboration with not only educational personnel, but stakeholders in the community to provide opportunities for SWD. If implementing WBLEs, CTE instructors must communicate with community stakeholders. Through this collaboration SWD had opportunities to job shadow, internships, or apprenticeships (Cook, 2015) to help find trade or career the SWD showed passion.

As part of this study, the first statement surveyed, checked if CTE educators took initiative to meet with special education teachers. Almost three-fourths (72.6%) of those surveyed either agreed or strongly agreed with this statement. However, regarding communicating with outside agencies the findings were much lower. Only 22.1% agreed or strongly agreed to this sentence. The last statement pertained to CTE instructors meet with students and parent to develop a plan for how CTE programs can best meet the needs of the student. Those who chose agreed or strongly agreed was 47.1%. Hyslop (2018) noted one of the critical elements for SWD to meet success was for educators, students, parents or guardians understood and promoted the CTE program of study.

Discussion

Teacher Demographic Data

The data collected and analyzed for this study used the demographics of CTE instructors to meet success for SWD. Data was collected from 229 who started the survey. However, some chose not to complete the survey. Most of the questions of the survey completed was 217 of the respondents. All the participants were CTE instructors from Tennessee.

To begin this survey, the participants were asked gender preference. The choices were male, female, or prefer not to say. Of the 217 who answered, 46.1% was male, 53.0% identified as female, and .9% chose no preference. According to NCES (2018), 23.5% were male teachers and 76.5% were female in Tennessee. Therefore, this shows a trend of a closer alignment of males and females as CTE educator compared to all types of teachers in Tennessee.

CTE Educators Age Ranges. Next questions inquired about the age range of the participants in the survey. The age ranges in this survey were 20-29 with 6%, 30-39 had 18.4%, and 29% chose 40-49 years, with 50 plus had 45.6%. The largest distinct group in Tennessee CTE educators surveyed was 50 plus with 45.6%. NCES (2018) had different age range categories than those in this study. However, 50 plus was the one that could be compared with 25.7% in same category. This pattern showed CTE instructors in Tennessee were older in age than teachers in general. The researcher thinks with the largest percentage in the 50 plus range, then those need to be mentoring the younger CTE educators.

Education Level of CTE Instructors. The participant educational level ranged from high school or equivalent to doctorate degree. Respondents' education levels percentages were as follows: high school diploma or equivalent 3.2%, associate degree 8.8%, occupational certificate 11.5%, bachelor's degree 37.8%, master's degree 28.6%, doctorate 5.1% and other was 5.1%. All who chose other stated the degree was educational specialist. CTE instructors were one of the few licensed teachers who can have a high school diploma with industry experience and enter a CTE classroom while completing the requirements for occupational licensure (TDOE, 2015). Even the various educational levels bachelor's and master's degrees represented most with total of 66.4%. This researcher thinks even though bachelor's and master's degrees were from most respondents, this means those with other degrees and industry experience cannot become effective CTE instructors.

Years of Education Experience. The survey respondents indicated how many years of experience in the field of education. Those with 1-5 years and 20 plus years reported the highest and closest percentages. CTE educators with 1-5 years was 22.7% and 20 plus years with 21.8%. This researcher thinks those with 20 plus years need to be collaborating with those with 1-5 years

to help with the retention of effective CTE instructors. The other respondents revealed the following: 6-10 years was 17.1%, 11-15 years was 12.7%, 16-20 years was 15.7%. All the years of experience was closely aligned in the participants. Also, the researcher feels that all groups of experience need to work together for success with SWD.

Years of Industry Experience. Next the survey participants responded to how many years of experience in the field of industry. As a reminder some CTE educators begin in a certain field of industry, then transitioned over to education with field expertise. Once again, the years of 1-5 had 29.8% and 20 plus had 31.7% years of experience in industry, which was closely aligned. The others reported 6-10 years was 17.1%, 11-15 years was 12.7%, and 16-20 was 8.8% of experience with industry. In this question 210 respondent where other questions 217 answered. Since zero years was not a choice, this researcher thinks those seven may have come straight into education from college as a CTE educator. Additionally, this researcher feels some CTE professionals came straight from a university, for example with agricultural. However, other areas in CTE need real world experiences before stepping into the field of education. For example, the researcher sees construction or collision repair as two programs where industry expertise needed to be required to teach those programs.

Grand Divisions of Tennessee. Tennessee is divided into section consisting of west, middle, and east. West Tennessee had the most respondents of 45.2%. Middle Tennessee was 28.1% and east Tennessee was 26.7% of data collected. In the field of education, there were competitions between the grand division in relations to funding and grant monies. This researcher thinks most of the respondents were from west Tennessee because that was where the researcher resides. Additionally, some middle and east Tennessee school districts declined to share the survey due to restrictions from school boards.

Current Position. The participants were posed the question of current position as an open-ended response. This question had a total of 229 to participate. There were 13 different current positions that were noted. The category of CTE teacher, with no detail, got the greatest response with 12.7%. Health sciences respondents were next with 7.9%. The other 11 categories had scattered responses. This researcher thinks it would have gotten a better response if participants were asked to list the specific career cluster. The term of CTE teacher could fall in one of the 12 program clusters provided in Tennessee.

Research Question One

The researcher examined the question of how and by whom IEPs were obtained for SWD in the CTE classroom. The participants were asked to indicate how received finalized IEP and by whom was the IEP given to the CTE instructors. The results provided data of strongly disagree, disagree, agree, and strongly agree.

Received IEP. Due to federal and state laws, all teachers who had SWD in the classrooms, must be provided information pertaining to the IEP (TDOE, 2018). The data showed over half of the respondents got a finalized IEP with all the information. A discrepancy was found between gender. More male CTE instructors (M=2.92) received a finalized IEP than females or those who did not state gender. Also, CTE instructors with a high school diploma where more likely (M=3.00) to get a completed IEP. Those with a PhD/EdD were least likely (M=2.18) to get a finalized IEP.

Further data results reflected even more CTE instructors received an IEP at-a-glance. About half of the participants agreed the information was shared by email. Only 12.7% stated to receiving no information. Educational levels showed some differences with mean results. CTE

instructors with occupational certificate (M=2.52) and high school diploma (M=2.57) were less likely to get an IEP at-a-glance. Whereas those with BA/BS (M=3.33) and MA/MS (M=3.38) showed a higher response for getting an IEP at-a-glance. Another discovery was the difference with industry experience of 20+ years (M=2.85) and 6-10 years (M=3.51). This was interesting that those with more years of industry experience did get an IEP at-a-glance. The researcher found a positive where 60%-85% got a hard copy of the IEP or IEP at-a-glance.

However, one concern was information being shared in the form of an email. Some school districts do not allow e-mail communication to share confidential documents or information. This would be an area for CTE instructors to be trained. Another concern for this researcher was 12.7% was equal to 27 CTE educators did not get any information about SWD. This means at least 27 students did not get needs met due to information not being shared. The only discrepancy found with email was in gender. Those who did not state gender (M=1.50) were less likely than CTE males (M=2.66) to get an email with information.

The next statement about being told nothing about an IEP, had 87% that either disagreed or strongly disagreed. So, this was a strong percentage that disagreed with this sentence, which was a positive. However, there was still some CTE educators who were not invited to meetings about SWD. The demographic that revealed a significant discrepancy was educational levels. Those with a PhD/EdD were most likely (M=2.36) to get nothing about SWD. In contrast, BA/BS degrees were least likely (M=1.53) to not get invited to meetings.

Responsibility of IEP. This data showed most CTE educators got information about SWD from the special education teacher. Then the order of responsibility was the guidance counselor, administration, and lead teacher, respectively. The research from Schmalzried (2010) found information was consistently shared from special education teachers. This researcher

found it interesting that about half stated information was given by the guidance counselor. Even though a positive member on an IEP team, it is not required (TDOE, 2018). However, an administrator or designee was required to have access to special education information. The data showed guidance counselors and administration were close to equal.

The only demographic with discrepancies for who gave the CTE instructors information was the area of gender. CTE males got information from special education teachers at a higher rate (M=3.17) especially those who did not state gender (M=2.00). Regarding guidance counselors giving information males again led with a M=2.71 and those who did not state gender was M=1.50. Next receiving information from lead teachers those not stating gender was the highest (M=2.50) which showed a discrepancy with female CTE instructors (M=2.12), who were the lowest. Last with administration giving information, again males had a higher rate (M=2.70) than females (M=2.17) or not stated (M=1.50). Overall, CTE males noted getting information from the above personnel at higher means.

Research Question Two

The researcher examined in what ways were CTE instructors invited to IEP meetings. Also, this question gathered data to how often CTE instructors attended IEP meetings.

Hard Copy of IEP Invitation. A minimum of one classroom teacher was required to attend SWD IEP meetings. The teacher must be invited to the meeting just like parents and other required participants (TDOE, 2018). CTE instructors were asked if the teachers got a hard copy of invitation to IEP meetings. An overwhelming response of 75.4% either strongly disagreed or disagreed with this statement. This researcher thinks this was reflective of the issue of communication between CTE educators and personnel responsible for inviting the appropriate

team members to the IEP meeting. Additionally, as educators sent notes and letters to parents as forms of communications about IEP meetings, the teachers were creating documentation. Therefore, it is the opinion of the researcher a hard copy is the best way of an invitation and an effective way to open the lines of communication.

The only demographic reflecting a difference was in gender. Female CTE instructors got a hard copy of an IEP (M=1.88), which was lower than males (M=2.22) and those who did not state gender (M=2.50). Again, CTE males got a hard copy of an IEP than others.

Email of IEP Invitation. Email has become a strong way to communicate in most fields, including education. This statement was a total reversal of the hard copy of an invitation. With this question, 76.8% reported an invitation of an IEP meeting was shared in an email. This is a significant percentage, and this statement had no discrepancies within the demographics. The researcher was concerned with the confidentiality of the SWD and using email. Again, CTE instructors would need to check with district to determine if email about and IEP was legal. Also, this should be something included in the preparation of CTE instructors working with SWD.

Phone Call of IEP Invitation. The next form of communication was via phone call. This was the least used of the four ways of communication survey. Only 18.4% either agreed or strongly agreed to receiving an IEP invitation by phone call. The only demographic to show a difference was industry experience. Those with 1-5 years with industry (M=2.16) were more likely to get a phone call than those with 16-20 years with industry (M=1.50). Many schools provided telephones in teachers' classroom more than past years. This researcher was shocked that less than 20% got a phone call as an invitation. However, this does show a pattern of more written notice and not verbal. The researcher thinks it is a promising idea that CTE instructors are given tangible notices so the educators can refer to the invitation.

No Invitation to IEP Meetings. There was approximately 75% who disagreed with about no invitation to IEP meetings. This means about a fourth did not get invited. The grand divisions of Tennessee showed a significant difference with west Tennessee (M=2.14) with the highest score not to be invited. Middle Tennessee had the largest difference (M=1.76) with west Tennessee.

Preferred IEP Invitation Notification. The next question was an open-ended for the CTE instructors to stated preference of how to be notified of an IEP meeting. Only 44 of the respondents answered this question with 50% wanting an email. Once again, the researcher was concerned about the confidentiality of SWD. However, there were ways to email CTE instructors without using personal information. The researcher thinks it was especially important to communicate with CTE instructors in some visual way. Lastly, one of the answers to this question was a CTE instructor just wanted to be invited to meetings. In the researcher's opinion, this had to change.

Attendance to IEP Meetings

In the second part of this research question, attendance to IEP meetings were surveyed. CTE educators' attendance was crucial of SWD to meet success. During an IEP meeting, placement decisions were made and CTE instructors need to be actively present at these meetings (Haber and Sutherland, 2008). At IEP meetings, lines of communication were opened, and relationships began.

IEP Attendance in Person. The second part of research question two was about how often CTE instructors attend IEP meetings. The first way was CTE educators attend IEP meetings in person. Of the participants, 74.1% noted in person attendance to IEP meetings. This

was a strong amount of data for this statement. The researcher was surprised this number was this high. However, this is a good outcome. Therefore, this shows the researcher that a large amount of high school CTE teachers engage in the IEP process.

An interesting discrepancy found was among the grand divisions in Tennessee. CTE teachers in west Tennessee were the least likely (M=2.72) to attend meetings in person. Those in east Tennessee (M=3.04) and middle Tennessee (M=3.08) were more closely aligned. The main difference was between west Tennessee and middle Tennessee CTE instructors.

IEP Attendance by Phone or Zoom. With the pandemic starting in 2019, school districts were allowed to conduct IEP meetings over the phone or by Zoom. All educators were introduced to doing many things remotely and conducting IEP meeting was one. In this survey, 28% stated the use of this type of communication for IEP meetings. This data was the lowest in respect to actual attendance to IEP meetings by CTE instructors. This researcher thinks this number would have been lower if not for months of education being remotely. Even though distance learning was occurring, functions such as IEP meetings had to proceed in a timely manner.

The two areas that showed discrepancies were gender and grand divisions. Male CTE teachers were most likely (M=2.22) to attend by phone conference or Zoom. Consequently, those who did not disclose gender was M=1.50, so the discrepancy was between these two. Female CTE instructors had a mean of 1.96 to attend by phone or Zoom. The other area was grand divisions of Tennessee. CTE instructors in west Tennessee was least likely (M=1.89) to attend by phone or Zoom. Middle and east Tennessee had mean scores of M=2.24 and M=2.25, respectively.

IEP Attendance with Issue. The participants survey if attendance only happened when the CTE instructor got information about a possible issue with SWD. Even though almost three-fourths strongly disagreed or disagreed, there was close to a third surveyed agreed or strongly agreed. This researcher finds this to be of concern. All SCTE teachers should want to attend all meetings invited, not just those where SWD may manifest an issue in the classroom. This could be an area to be addressed in preparation of working with SWD. Another positive outcome was there no significant discrepancies between the demographics and this statement. So, CTE educators need to understand the importance of actively attending meetings.

Non-attendance to IEP Meetings. The last statement survey was as CTE teachers, attendance to IEP meetings does not happen. This statement worried the researcher the most. A quarter of those surveyed did not attend meetings. Of the participants, the frequency of 54 did not attend meetings. Therefore, there were at least 54 students who did not have a CTE instructor present at IEP meetings. Hence the concern this researcher displays for non-attendance. Gender and grand divisions had significant differences with not attending meetings. Regarding gender female CTE teachers were most likely (M=2.19) not to attend meetings. The ones who did not state gender were least likely (M=1.50) and males was in the middle (M=1.71). With grand divisions, west Tennessee was had highest mean (M=2.19) for not attending meetings. Once again middle and east Tennessee had close means of (M=1.76) for middle and (M=1.79) for east.

Research Question Three

The researcher examined how CTE instructors were provided with trainings on how to implement goals and accommodations in an IEP for SWD. Many CTE educators preparation was different from traditional general education teachers. Perhaps this was the reason CTE teachers

were not as high regarded as those teaching academic courses (Chen & Ney, 2020). This question collected data about trainings to improve or increase the planning of working with SWD.

Trainings for IEP Implementations. This question analyzed data pertaining to how CTE educators were trained for working with SWD. Due to a larger number than CTE teachers anticipate being SWD in the classroom, these educators were less prepared (Dougherty, 2018). Therefore, effective, consistent training was crucial for SWD to meet success in CTE programs. The types of in-service trainings surveyed were provided by required, optional, and those by the special education department. The last option was no training was provided.

The statement about attending required training showed differences in demographics. CTE males (M=2.39) signified attendance to optional trainings and not stating gender was least (M=1.50). Females teaching CTE had a mean of 2.13. The next statement about attending training by special education department revealed CTE males was most likely (M=2.49) and not stated was least (M=1.50). The discrepancy for this statement was experience in education. Those with 20+ years of educational experience revealed the highest mean (M=2.62). The least group to attend training by special education personnel was those with 1-5 years of experience (M=2.15). Finally, those who received no training the population of gender showed a difference. CTE male teachers were least (M=2.21) to have no training and no stated gender was most likely to get any training (M=3.50).

The data showed a lack of trainings for CTE educators. Approximately 30%-40% either agreed or strongly agreed to any of the types of trainings. Also, over 40% noted no training was accessible. For this researcher, this was alarming, but not shocking. As experienced educators, some forget what that feeling of having the responsibility of educating the future. This future

includes incoming teachers to the field. Proper training on the implementation of IEPs was crucial for the success of SWD.

Included as part of this research question was an open-ended question for what was needed to understand the IEP implementation process. Due to the open responses, many different ones were stated. The top three were more trainings or professional development, clear communication, and visual aids, respectively. The researcher discovered the more trainings and clear communication was the exact reason for this project. The answer of visual aids would be a useful resource to review or develop. When CTE teachers feel empowered for ways to implement goals and accommodations, then SWD have a greater chance of being successful. Theobald (2019) found an increase in employment with students who had a CTE concentration in high school

Research Question Four

The researcher examined the responsibilities CTE instructors saw was required of the teachers for collaborating with stakeholders for SWD to meet success. Transition services were required of SWD to be addressed on the IEPs (IDEA, 2004). These services included work-based learning or apprenticeships. For these to be successful, CTE educators must collaborate with other stakeholders, especially those in the community for SWD to be places for services (Cease-Cook, 2015).

Collaboration with Stakeholders. The participants responded to collaboration with the following stakeholders: special education teachers, outside agencies, students, and parents. All of which were required to attend IEP meetings, expect outside agencies. However, these can be

included upon invitation. When work-based learning or apprenticeships were involved, it would be advisable to include these agencies (Cook, 2015). The more collaboration the likelihood of establishing clear communication.

The data showed CTE educators were more likely to collaborate with special education teachers. Additionally, almost three-fourths noted to be the one to initiate the communication. However, less than a fourth of CTE instructors revealed communicating with outside agencies. About half responded favorably to meeting with students and parents about developing a plan. This study did not include all the stakeholders, just those noted in the survey.

CTE educators who met with student and parents had more equal frequencies. This was the only area where significant differences were discovered in gender and educational levels of CTE teachers. Male CTE instructors had a strong mean (M=2.66) about meeting with parents and students. Those who did not answer gender preference was the lowest (M=1.50). Regarding educational levels those with an associate degree (M=2.11) was least likely to meet with parents and students to develop a plan. However, respondent who chose other, which was educational specialist were most likely (M=2.89) to meet with parents and students.

This researcher had great concerns over this data. Even though the data results were positive for working with special education teachers, data was lower with students and parents. These four positions should be working together on a regular basis for SWD to meet success in life. Additional concern was the lack of CTE teachers who collaborate with outside agencies. Working with outside agencies not only goy exposure for SWD to the workforce, but it also allowed businesses to discover what CTE programs have to offer. Building these relationships were crucial in the CTE world.

Practical Significance

Involvement in IEP Process

The practical significance of this study could increase CTE instructors involvement in the IEP process. First, CTE educators ought to be invited to actively participate in IEP meetings. IEP teams must work together in developing an IEP most appropriate with SWD. To develop effective IEPs, CTE instructors were to participate in IEP meeting when SWD are being placed or are currently participating in CTE programs (Harvey, et al, 2020). During the IEP meetings, CTE educators must have a voice. Habner & Sutherland (2008) found best practice was for CTE teachers to actively attend IEP meetings for correct placements. This researcher thinks it was necessary for CTE instructors to be trained in special education laws and regulations. By doing this, the CTE educators expected an invitation to an IEP or have the knowledge to inquire about attending.

When CTE educators were invited, it was then teachers' responsibilities to advocate for SWD. The teams needed to determine if the CTE program was appropriate placement for SWD. If teachers felt placement, goals, or accommodations were not appropriate for students to meet success, then voice those concerns. At this point, the obligation of the team was to discuss it, refine it, and advocate for its change (Habner & Sutherland, 2008). CTE teachers were required to not only advocate for the SWD, but also for the integrity of CTE programs. This researcher thinks all SWD needed an advocate with CTE teachers being good candidates for this task. However, those teachers should have the knowledge that teachers can speak up for what is in the best interest of the SWD. With the knowledge brings power, and with the proper training, CTE educators empowered SWD emerging into the workforce.

The reason for not attending IEP meetings may be since teachers were not invited, not considered essential, or teachers simply cannot attend. However, this does not excuse the CTE educator from getting information from the meeting. If CTE educators do get the information, then ask questions about the documents and the meeting. When CTE teachers do not get IEP documents, teachers should initiate contact with special education teachers. This researcher was shocked that information about SWD was not shared in some cases. All CTE educators needed knowledge of a SWD being in the classroom. CTE teachers cannot effectively meet the needs of SWD without the proper document. Consistent training for CTE instructors is so imperative.

Involvement in the IEP process was a combination of receiving information and IEP team involvement, which refer to research questions one and two. Receiving information had discrepancies in gender and six statements, educational levels and three statements, industry experience and one statement. The IEP team involvement had differences with gender and three statements, industry experience and one statement, and grand divisions and four statements. The research questions the differences with gender and nine statements, since this included people who chose not to disclose gender. The frequency of this choice only had two that did not state male or female. Therefore, the researcher questioned if that choice had been removed, would there have been as many discrepancies?

Training and Collaboration

Throughout this study, it has been established that many CTE educators did not go through traditional teacher preparation programs. In a study by Harvey (2007) it was found 71% of Indiana CTE teachers had little or no competent training in working with SWD. Therefore, this researcher thinks CTE educators needed to first understand secondary CTE and special

education legal requirements. In IDEA, special education teachers are required to understand CTE, and services mandated by this legislation. Hence, the need for CTE educators to have knowledge of the provisions of IDEA (Dieterich & Smith, 2015). This researcher thinks for this to be accomplished professional development needed to address legislative mandates and the affects instruction to meet the needs of SWD.

Successful CTE instructors must ensure knowledge of quality, effective teaching practices. These educators, especially those coming from industry, needed to understand the importance of developing quality teaching pedagogy. Specialized trainings needed to be developed consisting of strategies when working with SWD through instruction, assessment, and differentiated lessons (Harvey, et al, 2020). This researcher thinks teaching teachers, especially new to the field, how to engage with SWD is so important for success. All CTE teachers do not need to be led into a classroom without the necessary training and supports to be successful.

Collaboration between stakeholders was crucial in meeting success of SWD and CTE programs. During IEP team meetings were the best place to begin to develop clear, concise, continuing communication. This will ensure the IEP has continuity, which shows clear connections among the sections of the IEP (Habner & Sutherland, 2008). Teamwork must be in place for these types of IEPs to be developed. Once IEPs have finalized and shared, strong professional and personal relationships are cultivated.

Special education teachers and CTE instructors must form solid relationship and share areas of expertise. To use expertise effectively, these two groups need to share and use information collectively (Schmalzier & Harvey, 2014). Regarding CTE teachers just entering the field, a strong positive relationship with special education teachers was beneficial. Collaborating with colleagues was an effect way for CTE teachers to learn strategies, practices, and incorporate

these strategies in the classroom. By implementing, reflecting, and getting peer feedback helped CTE educators to gain confidence when working with SWD (Sturko & Gregson, 2009). This researcher thinks cultivating effective relationships between CTE and special education teachers was of the upmost importance. Both groups could learn from each other for preparing what is best for SWD. Also, these connections would strengthen both programs.

Another association that needs to be formed was between CTE instructors, parents, and students. Many of these students were 16 years or older and are required to attend IEP meetings. To form good connections with parents and students, CTE educators needed to increase parents and students knowledge of CTE programs requirements and benefits. Contacts must be made with parents early and on a regular basis. By doing these cooperative partnerships there was more understanding the importance of good attendance, behavior, and expectations (Habner & Sutherland, 2008). This researcher thinks when clear, honest communication was established with parents, less issues were likely to arise. When developing relationships with SWD, CTE teachers needed to be approachable, and students feel as though the teachers genuinely care.

Schools were the pulse of the community and local businesses and industry provide resources and funding to schools. Therefore, schools needed to provide students who are prepared and competent to enter the workforce. When working with SWD, preparing to enter the workforce is part of the transition services in the IEP. Many times, WBL programs were an integral part of these services. So, CTE instructors must develop connections with outside agencies for industry partnerships to be formed to benefit SWD. Additionally, CTE educators needed to ensure the state and local policies support SWD working with local industry in work-based learning (WBL) experiences. When CTE educators prepare supports for SWD then the experiences before, during and after WBL was beneficial for all parties involved (Harvey, et al,

2020). This researcher feels CTE instructors must be the ones who reach out to industry and local businesses about SWD being placed in the workforce. Effective WBL was crucially important and good connections with industry was imperative for working with SWD. Once partnerships were developed, then CTE instructors, SWD, and local community business all benefit.

Training and collaboration were a combination of the data from research three and four, which include implementation and collaboration statements in the survey. Implementation showed differences with gender and three statements and years of education experience and one statement. Next collaboration showed discrepancies with gender and one statement and educational levels and one statement. The gender group needed to be looked at more closely for validity. Areas for focus was those having the most experience in education received more training than those with the least. This would be an area to assign mentor CTE teachers with new CTE instructors. Another implication considered was that those with other degrees, which all noted to have educational specialist degree, met with parents and students higher than other level of degrees.

P-20 Implications

Involvement with Students

Even though the focus of this project is SWD, all educators should to be involved in the lives of students in the classrooms. As educators, P-20 focuses on all learners development from conception through adulthood (MDOE, n.d.). Therefore, this included SWD to achieve the highest possible achievements for a successful life. Unfortunately, some SWD the only education, love, and respect was felt inside a school building. Therefore, CTE instructors must

cultivate those relationships by becoming involved with SWD. Educators had some of the most powerful influences on SWD.

Yes, some of the focuses of this study was to be involved in the IEP process, connecting with other school personnel, students, and parents. All of those are especially important, but CTE educators need to make sure this is felt as personal connections. At times, IEP meetings felt rote and routine to the parents and students. However, the I in IEP stands for individualized, therefore school personnel involved need to remember the meeting is planning for the SWD to become successful in life. CTE instructors must use personal voices so that SWD have a plan to become productive citizens of society.

Connecting to the Community

As educators, it was sometimes viewed when students graduate high school or college, then the teachers job was completed. In P-20 education, this went beyond graduation to entering the workforce and repeating the cycle all over again. Learning either formally or informally never ended for the living. CTE instructors formed bonds with SWD and parents that can last for a lifetime. As educators, it was common to see former students working in the local business and even may work together in the same building or career. Effective CTE educators were mentors in the classrooms and are creating those who will become mentors for others. Students, parents, and CTE instructors will be connected forever.

Unless teachers work in the high school or college level, the partnership with outside agencies was often not considered. As the society is changing, when there were successful CTE programs who have partnerships with local industry a bond of trust was formed. Then the industries are contacting the CTE instructors to request SWD for possible WBL experiences. Successful CTE programs and educators can equal positive outcomes for industry too. These open, honest lines of communication was the best way for all to achieve maximum accomplishments.

Limitations of the Study

One of the limitations of this study was the researcher does not know how many CTE instructors received the survey. Due to CTE directors forwarding the survey, the researchers did not inquire how many teachers received the survey. A second limitation is the was the participants from the grand divisions. The west section responded with almost half of those surveyed. The middle and east divisions did not participate as much. The larger municipalities in these areas were the ones who declined to participate. This was also reflected in the data from ANOVA.

A third limitation were the questions pertaining to number of years in industry. The number of participants went down to 206 that answered this question. This question needed to be worded more clearly. For example, it needed to ask how many years worked in industry before coming to education. The fourth limitation was the open-ended question about the current position the participant was working. The answers were not specific and caused for an issue getting reliable data that matched up with the CTE career clusters.

A fifth limitation was the terminology used pertaining to receive an IEP. CTE instructors may have not understood what the researcher meant by finalized IEP or IEP at-a-glance. The researcher should have defined these terms to obtain accurate data. A sixth limitation was the open-ended question about preferred notification of IEP meeting. There were only 44 participants giving a response. Again, it was hard to get solid data because of the answers not being specific.

Finally, a limitation was the number who chose gender. CTE instructors who were male was 46.1%, female was 53.0%, and those who chose not to disclose gender was .9%. Gender showed up in a total of 13 significant discrepancies when ANOVA and Tukey Post Hoc was ran and analyzed. The researcher wondered if the .9% was not in the formula would the results be different. Additionally, since the gender groups were unevenly distributed in number, this caused the Tukey not to display visual chart with different columns.

Recommendations for Future Study

Considering the research design, the data collected and analyzed, this researcher offers the following recommendations for future study:

1. Future researchers should examine the frequency CTE teachers refers to SWD copy of IEP.

2. Future researcher may explore how much CTE instructors understanding of the confidentiality of SWD.

3. More research is required to determine if CTE instructors have an active role in IEP meetings.

4. More research is required to determine exactly how much training CTE instructors receive about implementing IEPs for with SWD when getting initial occupational license.

5. Future research should investigate what resources CTE instructors need to be successful when working with SWD.

6. Future research need to expand on how to increase collaboration and mentoring between CTE instructors and special education teachers.

7. Future researchers should investigate the effect of professional development to foster collaboration between CTE instructors and outside agencies.

8. Future studies should get a more even population from all the grand divisions in Tennessee.

9. More research should be completed in comparing diverse groups of teachers (regular, special, education, CTE, etc.) pertaining to receiving information, attending IEP meetings, and collaboration with other stakeholders.

Conclusion

This research looked at how CTE instructors preparation and involvement with SWD can foster success. Chapter V offers an overview, conclusions are shared, the results of research question 1, research question 2, research question 3, and research question 4. This chapter also included practical significance, P-20 implications, limitations of the study, and recommendations for future study.

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Appendix A

CTE Instructors Survey Developed by Qualtrics

Informed Consent

I am requesting your help with pursuing a doctorate degree in P-20 Education for Murray State University. The email was forwarded from your CTE director to request your participation in a survey that I am conducting for my dissertation project. I am asking CTE instructors, like you, to reflect on your involvement with students with disabilities.

Your responses are very important to my project titled:

CTE Instructors: Preparation to Involvement for Students with Disabilities to be

Successful. This is a short survey and should take no more than ten minutes to complete.

Your participation in this survey is entirely voluntary and all your responses will be kept confidential. No personally identifiable information will be associated with your responses in any reports of this survey.

Should you have any further questions or comments, please feel free to contact me at ncavness@murraystate.edu or 731-967-2581. This project has been reviewed and approved by the Murray State University Institutional Review Board (IRB) for the Protection of Human Participants. If you have any questions about your rights as a research participant, you should contact the MSU IRB Coordinator at (270) 809- 2916 or msu.irb@murraystate.edu.

I appreciate your time and consideration in completing the survey. Thank you for participating in this study! It is through your help I can further my education and obtain information to help CTE instructors and students with disabilities to succeed in CTE pathways.

Respectfully submitted, Nancy Cavness Doctoral student Murray State University

Dr. Kemaly Parr, faculty advisor, kparr@murraystate.edu

By clicking Continue, you give your consent to participate in this study.

Section 1: Demographic Information

Section 1: Demographic Information

What is your gender?

- ○ Male
- ○ Female
- ○ Prefer not to say

What is your age range?

- ○ 20-29
- ○ 30-39
- ○ 40-49
- ○ 50+
- ○ Not specified

What is your education

level?

- ○ HS Diploma or Equivalent
- ○ Associates Degree
- ○ Occupational Certificate
- ○ BA/BS
- ○ MA/MS
- ○ PhD/EdD
- ○ [ ] Other:

What is your current position?

[ ]

How many years in education?

- 1-5
- 6-10
- 16-20
- 20+

How many years in industry?

- 1-5
- 6-10
- 11-15
- 16-20
- 20+

In which grand division of TN do you teach?

- West
- Middle
- East

Section 2: Receiving Information

Section 2: Receiving Information

I am given a finalized IEP with all the information completed.

- Strongly disagree
- Disagree
- Agree
- Strongly agree

I am given an IEP at-a-glance.

- » Strongly disagree
- » Disagree
- » Agree
- » Strongly agree

I am sent an email with informal information.

- » Strongly disagree
- » Disagree

- » Agree
- » Strongly agree

I am told nothing about an IEP.

- » Strongly disagree
- » Disagree
- » Agree
- » Strongly agree

Personnel Responsible

I am given information from the special education teacher.

- » Strongly disagree
- » Disagree
- » Agree
- » Strongly agree

I am given information from the guidance counselor.

- » Strongly disagree
- » Disagree
- » Agree
- » Strongly agree

I am given information from a lead teacher.

- » Strongly disagree
- » Disagree
- » Agree
- » Strongly agree

- »

I am given information from administration.

Strongly disagree

- » Disagree
- » Agree
- » Strongly agree

Section 3: IEP Team Involvement

Section 3: IEP Team Involvement

I receive a hard copy of an invitation to IEP meetings.

- » Strongly disagree
- » Disagree
- » Agree
- » Strongly agree

I receive an email inviting me to IEP meetings.

- » Strongly disagree
- » Disagree
- » Agree
- » Strongly agree

I receive a phone call inviting me to IEP meetings.

- » Strongly disagree
- » Disagree
- » Agree
- » Strongly agree

I am not invited to IEP meetings.

- »
- » Strongly disagree
- » Disagree
- » Agree

  Strongly agree

How would you prefer to be notified about IEP meetings?

Attendance

I attend as many meetings as possible in person.

- » Strongly disagree
- » Disagree
- » Agree
- » Strongly agree

I attend as many meetings as possible by phone or Zoom conference.

- » Strongly disagree
- » Disagree
- » Agree
- » Strongly agree

I only attend meetings when informed there is a possible issue with a student with disabilities.

- » Strongly disagree
- » Disagree
- » Agree
- » Strongly agree

I do not attend IEP meetings.

- »
- » Strongly disagree
- » Disagree
- » Agree
- » Strongly agree

Section 4: Implementation

Section 4: Implementation

I am required to attend specific trainings on how to implement the transitional goals and accommodations of an IEP.

- » Strongly disagree
- » Disagree
- » Agree
- » Strongly agree

I attend optional trainings offered by my district pertaining to implementation of an IEP.

- » Strongly disagree
- » Disagree
- » Agree
- » Strongly agree

I attend training from my district's special education department.

- » Strongly disagree
- » Disagree
- » Agree
- » Strongly agree

I do not get any type of training concerning implementing IEP goals.

- » Strongly disagree
- » Disagree
- » Agree
- » Strongly agree

What could be put into action to increase your understanding of the IEP implementation process?

Section 5: Collaboration

Section 5: Collaboration

I take the initiative to meet with special education teachers about best practices for students with disabilities.

- » Strongly disagree
- » Disagree
- » Agree
- » Strongly agree

I communicate with outside agencies to meet transition goals for students with disabilities.

- » Strongly disagree
- » Disagree
- » Agree
- » Strongly agree

I meet with students and parents to develop a plan for how my program can best meet their needs.

- » Strongly disagree
- » Disagree
- » Agree
- » Strongly agree

I do not meet with any of the stakeholders pertaining to students with disabilities in my CTE program.

- » Strongly disagree
- » Disagree
- » Agree
- » Strongly agree

Powered by Qualtrics

Appendix B
IRB Approval

MURRAY STATE UNIVERSITY

Institutional Review Board

328 Wells Hall
Murray, KY 42071-3318
270-809-2916• msu.irb@murraystate.edu

TO: Kemaly Parr, Adolescent, Career, and Special Education

FROM: Jonathan Baskin, IRB Coordinator JB

DATE: 2/28/2022

RE: Human Subjects Protocol I.D. – IRB # 22-137

The IRB has completed its review of your student's Level 1 protocol entitled *CTE Instructors: Preparation to Involvement for Students with Disabilities to be Successful*. After review and consideration, the IRB has determined that the research, as described in the protocol form, will be conducted in compliance with Murray State University guidelines for the protection of human participants.

The forms and materials that have been approved for use in this research study are attached to the email containing this letter. These are the forms and materials that must be presented to the subjects. Use of any process or forms other than those approved by the IRB will be considered misconduct in research as stated in the MSU IRB Procedures and Guidelines section 20.3.

Your stated data collection period is from 2/28/2022 to 2/27/2023.

If data collection extends beyond this period, please submit an Amendment to an Approved Protocol form detailing the new data collection period and the reason for the change.

This Level 1 approval is valid until 2/27/2023.

If data collection and analysis extends beyond this date, the research project must be reviewed as a continuation project by the IRB prior to the end of the approval period, 2/27/2023. You must reapply for IRB approval by submitting a Project Update and Closure form (available at murraystate.edu/irb). You must allow ample time for IRB processing and decision prior to your expiration date, or your research must stop until such time that IRB approval is received. If the research project is completed by the end of the approval period, then a Project Update and Closure form must be submitted for IRB review so that your protocol may be closed. It is your responsibility to submit the appropriate paperwork in a timely manner.

The protocol is approved. You may begin data collection now.

Opportunity *afforded*

murraystate.edu

Equal education and employment opportunities M/F/D, AA employer. Murray State University supports a clean and healthy campus. Please refrain from personal tobacco use.

Appendix C

Initial Email to CTE Directors

From: Nancy Cavness

Cc: Dr. Kemaly Parr, Faculty Advisor

Sent: CTE Directors

To:

Subject: Cavness Dissertation Survey

Date: March 2022

Dear [Recipient],

I am requesting your help with pursuing a doctorate degree in P-20 Education from Murray State University. Currently, I am a district supervisor with Carroll County Schools, in west Tennessee. In this position, I work closely with our CTE programs at Carroll County Technical Center. Before my current position, I was a special education teacher and assistant principal.

It is my request that you forward an email containing a survey link to all your current CTE teachers. The title of my dissertation is CTE Instructors: Preparation to Involvement for Students with Disabilities to be Successful. Therefore, the survey will range from teacher preparation, involvement in IEP meetings, and collaboration with stakeholders involved with students with disabilities.

The survey will be conducted through a survey link using the program Qualtrics. Participation is completely voluntary, and all the responses will be kept confidential. There is no personal identifiable information involved in this survey.

Would you be willing to send the survey to your CTE teachers and encourage them to participate? Please respond to this email by March 7, 2022.

Should you have any further questions or comments, please feel free to contact me at ncavness@murraystate.edu or 731-967-2581.

Respectfully submitted,
Nancy Cavness

Doctoral Student

Murray State University

Appendix D

Initial Email to CTE Instructors from CTE Directors

From: Nancy Cavness

Subject: Cavness Dissertation Survey

Date: March 2022

Dear Recipient,

I am requesting your help with pursuing a doctorate degree in P-20 Education for Murray State University. The email was forwarded from your CTE director to request your participation in a survey that I am conducting for my dissertation project. I am asking CTE instructors, like you, to reflect on your involvement with students with disabilities.

Your responses are very important to my project titled: CTE Instructors: Preparation to Involvement for Students with Disabilities to be Successful.

This is a short survey and should take no more than ten minutes to complete. Please click on the link below to go to the survey website.

Survey link: [TBD]

Your participation in this survey is entirely voluntary and all your responses will be kept confidential. No personally identifiable information will be associated with your responses in any reports of this survey. Should you have any further questions or comments, please feel free to contact me at ncavness@murraystate.edu or 731-967-2581.

This project has been reviewed and approved by the Murray State University Institutional Review Board (IRB) for the Protection of Human Subjects. If you have any questions about your rights as a research participant, you should contact the MSU IRB Coordinator at (270) 809-2916 or msu.irb@murraystate.edu.

I appreciate your time and consideration in completing the survey. Thank you for participating in this study! It is through your help I can further my education and obtain information to help CTE instructors and students with disabilities to succeed in CTE pathways.

Respectfully submitted,Nancy Cavness

Doctoral student

Murray State University

Dr. Kemaly Parr, faculty advisor, kparr@murraystate.edu

Appendix E

E. Follow-up Email to CTE Instructors

From: Nancy Cavness

Cc: Dr. Kemaly Parr

Sent:

To:

Subject: Cavness Dissertation Survey

Date: March 2022

Dear [Recipient],

A follow-up email was recently sent to you asking for participation to a brief survey about your involvement as a CTE instructor with students with disabilities. Your responses to this survey are important and will help to complete my project titled: CTE Instructors: Preparation to Involvement for Students with Disabilities to be Successful. Additionally, the data collected will be shared with CTE Directors and other administrators in the state of Tennessee.

The survey is short and should only take you about ten minutes to complete. If you have already completed the survey, I greatly appreciate your participation. I plan to end this study next week, so I wanted to reach out one more time to give you a chance to participate and your voice be heard. Additionally, your participation in this survey is entirely voluntary and all your responses will be kept confidential. No personally identifiable information will be associated with your responses in any reports of this survey.

Please click on the link below to access the survey website.

Survey Link: [TBD]

Your responses are important. Getting direct feedback from CTE instructors is critical in completing this project and helping to improve education between CTE educators and students with disabilities. Should you have any further questions or comments, please feel free to contact me at ncavness@murraystate.edu or 731-967-2581.

Respectfully submitted,

Nancy Cavness

Doctoral student

Murray State University