Effects of implementing a transition curriculum using Google Classroom on the self-determination, post-secondary readiness, and career readiness skills of high school students with high incidence disabilities

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ABSTRACT

Students with high incidence disabilities continue to fall behind when compared to their nondisabled peers who experience much greater post-secondary and employment success after high school. The purpose of the study was to determine if using Google Classroom to implement a transition curriculum would affect the career readiness, post-secondary readiness, and self-determination skills of students with high incidence disabilities. The literature review revealed that there are several definitions and theories defining the components that comprise an effective transition curriculum. Using Google Classroom transition modules were created and implemented that focused on the components: age-appropriate assessments, individualized and student-centered planning and goal setting, career exploration, post-secondary training exploration, employment preparations, and self-determination. A quantitative study was designed to determine whether utilizing Google Classroom had an effect on the self-determination, career readiness, and post-secondary readiness skills of the student participants. Two rating scales were utilized, and a Wilcoxon signed-rank test was used to analyze the data. Utilizing Google Classroom had an overall positive effect on the self-determination, career readiness, and post-secondary readiness skills. The transition curriculum also had a positive effect on all areas except leisure activities. This positive effect has many implications on future transition educational practices and post-high school outcomes for students with disabilities. This positive effect could help students secure financial stability and successfully live independently after high school.

Keywords: transition, Google Classroom, self-determination, career readiness, post-secondary readiness, high incidence disabilities

DEDICATION

This dissertation is dedicated to my family. First to my loving husband who supported my decision to pursue earning my doctorate degree and my children, Lydia and David, who were patient while I wrote. Next I dedicate this to my mom Susie, mother-in-law Peg, and father-in-law Bruce. Thank you for watching David and Lydia and for encouraging me along the way. Lastly, I dedicate this to my late father, Ernie, who always asked me how my paper was going and when I would be done.

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TABLE OF CONTENTS

APPENDICES

LIST OF TABLES

CHAPTER 1

INTRODUCTION

Post-secondary and employment outcomes for students with disabilities are lacking (Benz et al., 2000; Carter et al., 2009; Izzo et al., 2010; Kreider et al., 2015). The overall employment rates for individuals with disabilities continue to fall behind those without disabilities (Benz et al., 2000; Carter et al., 2009; Izzo et al., 2010; Kreider et al., 2015; Lindstrom et al., 2011; Luecking & Luecking, 2015; Morningstar, 1997; 2014; Piers & Duquette, 2016; Rabren et al., Test et al., 2009; Trainor et al., 2016). Additionally, students with disabilities continue to have low success rates in post-secondary schools and training programs. Students with disabilities continue to drop-out or fail out at high rates from secondary programs (Fullarton & Duquette, 2015; Hadley, 2006; Kreider et al., 2015; Young, 2007). Thus, improvements must be made to the delivery of transition curriculum for students with disabilities. It must be implemented consistently and with fidelity. The curriculum needs to be engaging, student centered, and encourage family involvement. It should be comprised of age appropriate assessments and content as well as contain a coordinated set of activities that focuses on career exploration, post-secondary training exploration, individualized and student-centered planning and goal setting, employment preparations, study skills lessons, self-determination, and technological skills (Benz et al., 2000; Fullarton & Duquette, 2015; Herbert et al., 2010; Lombardi et al., 2020; Lindstrom et al., 2011; Lombardi et al., 2020; Morningstar, 1997; Trainor et al., 2016).

This chapter will discuss the history and background of transition curriculum for students with disabilities and the legal requirements of school districts outlined by special education laws. The education implications of post-secondary and career readiness skills, self-determination

skills, and family involvement for students with disabilities will also be discussed. The statement of the problem and purpose of the study will be explained and all critical terms will be defined.

Background of the Study

Transition curriculum for students with disabilities is not a new concept. The first transition curriculum was implemented in the 1930's (Morningstar, 1997). However, public schools were not mandated to provide transition curriculum for individuals with disabilities until 1990 with the reauthorization and renaming of the Education for all Handicapped Children Act to the Individuals with Disabilities Education Act (IDEA) (Benz et al., 2000; Trainor et al., 2016; Van Laarhoven-Myers et al., 2016; Young, 2007). This mandate was instrumental in creating a link between transition curriculum and successful post-secondary outcomes for students with disabilities. Amendments were made to IDEA in 1997 to clearly define the role of students, school personnel, families, and community agencies in the transition process for students with disabilities (Benz et al., 2000; Young, 2007). IDEA 1990 and 1997 mandates also introduced the concept of student involvement in their Individualized Education Plan (IEP) meeting whenever transition services or plans were being discussed. This mandate was the start of students' preferences and interests being incorporated into the transition process (Benz et al., 2000; Traitor et al., 2016; Young, 2007).

The Individuals with Disabilities Education Improvement Act of 2004 (IDEA 2004) mandated changes be made to the transition curriculum for students with disabilities. High school transition curriculums were required to address student preparation for post-secondary schooling, employment, community participation, and independent living (Carter et al., 2008; Lombardi et al., 2020; Trainor et al., 2016; Young, 2007). IDEA 2004 also brought about a requirement that the IEPs of transition aged students include individualized, measurable, and

appropriate post-secondary goals based on a student's needs, interests, strengths, preferences, and the results of transition assessments. It mandated the goals be related to post-secondary training or schooling, employment, and independent living skills. The goals are required to be implemented for the student no later than the age of 16 (Benz et al., 2000; Carter et al. 2009; Lombardi et al., 2020; Trainor et al., 2016; Van Laarhoven-Myers et al., 2016).

Then in 2015, the Every Student Succeeds Act (ESSA) was passed in effort to improve transition curriculum and services (Lombardi et al., 2017, 2020). This act shifted the focus of transition curriculum and the post-secondary and employment readiness skills students were acquiring. Prior to ESSA, students were only required to be provided curriculum that would allow them to access post-secondary training and employment. ESSA now required students be prepared to be successful in those settings. (Lombardi et al., 2017, 2020). In other words the focus shifted from teaching students how to get accepted in a post-secondary program or hired at a place of employment to also teaching them the skills necessary to succeed such as time management and self-advocacy skills. ESSA also outlined the use of digital or blended learning to strengthen the skills students acquired. Blended learning is practice where teachers utilize a combination of technology based and teacher lead instruction. An even greater priority was placed on including digital or blended learning in the special education settings. The emphasis was to provide students with the opportunity to acquire technological skills necessary to have post-secondary training and employment success and give all students with disabilities an equal opportunity to acquire these skills (Lombardi et al., 2017, 2020).

These legislative decisions were stepping-stones to preparing students with disabilities to acquire post-secondary readiness, career readiness, and self-determination skills necessary for successful futures and active participation in their communities. They also brought about some

improvements in the outcomes of students with disabilities. The first and second National Longitudinal Transition Studies showed an improvement in the dropout rates of students with disabilities with 17% fewer students dropping out from 1987 to 2003 (Carter et al., 2009; Izzo et al., 2010; Lindstrom et al., 2011; Trainor et al., 2016). Post-secondary education enrollment also improved and doubled during the time between the two studies (Trainor et al., 2016). However, despite legislative efforts, the second National Longitudinal Transition Study data showed that the transition efforts still require attention. The study showed that two years after graduating from high school only 44.6% of individuals with specific learning disabilities were employed and 34.7% were enrolled in a form of post-secondary training (Carter et al., 2009; Izzo et al., 2010; Lindstrom et al., 2011; Trainor et al., 2016). Even today, the most current employment statistics show that students with disabilities struggle to find employment compared to their nondisabled peers with only 30.9% of individuals with disabilities between the ages of 16-64 being employed compared to 74.6% of individuals without disabilities in the same age range (U.S. Department of Labor, 2020). These statistics demonstrate the need for continued efforts to prepare students with disabilities for life after high school.

Educational Implications

A transition curriculum is an integral part of education programming for students with disabilities (Rodriguez et al., 2017; Test et al, 2009). Transition curriculums are designed to ensure students with disabilities acquire the necessary skills and experiences needed to attain important life outcomes after graduating from high school. Transition curriculums are designed to provide students with disabilities the opportunity to learn a skill set focused on independent post-secondary, employment, and living goals. The purpose of a transition curriculum is to help students with disabilities acquire the skills they need to successfully contribute to society and

engage in their communities after graduating from high school (Izzo et al., 2010; Lombardi et al., 2020; Rodriguez et al., 2017; Test et al., 2018). There are many different definitions and theories surrounding transition curriculums for students with disabilities, but the majority focus on the concept of students acquiring post-secondary or career readiness skills and self-determination skills. There is a positive correlation between the implementation of a quality transition curriculum that includes family involvement and students acquiring post-secondary, career readiness, and self-determination skills (Izzo et al., 2010; Lombardi et al., 2020; Rodriguez et al., 2017; Test et al., 2018). Studies have shown acquisition of this skill set as a prediction for a positive post-secondary and employment outcome for students with disabilities (Fullarton & Duquette, 2015; Izzo et al., 2010; Lombardi et al., 2020; Morningstar, 1997; Rodriguez et al., 2017; Test et al., 2009; Test & Fowler, 2018).

Post-Secondary and Career Readiness Skills

Post-secondary and career readiness skills include the ability of a student to determine the correct post-secondary program and career that fits their individual interest, abilities, and needs. It requires that students possess a knowledge base of the variety of post-secondary training and career options (Benz et al., 2000; Herbert et al., 2010; Izzo et al., 2010; Lindstrom et al., 2011; Lombardi et al., 2020; Rodriguez et al, 2017). Additionally, students need to possess study skills or the ability to take notes, work collaboratively in groups, organize information and materials, utilize a variety of methods to prepare for exams and quizzes, and manage their time (Kreider et al., 2015; Morningstar et al., 2017; Rodriguez et al., 2017). Employment preparation skills including the ability to apply for a job, create a resume, dress for an interview, and participate in an interview are essential for individuals to possess in order to obtain and secure employment (Lindstrom et al., 2011; Lombardi et al., 2017, 2020; Luecking & Luecking, 2015;

Morningstar et al., 2017). According the Pennsylvania Department of Education (Career Readiness Guidance, 2019, p. 3), post-secondary and career readiness skills can be defined as:

> Preparations for meaningful engagement in postsecondary education, in workforce training, in career pathways, and to be responsible, involved citizen. This involves understanding career options in relationship to individual interests, aptitudes and skills including the relationship between changes in society, technology, government and economy and their effect on individuals and careers.

Post-secondary and career readiness skills create the foundation that ensure students with high incidence disabilities achieve post-secondary and employment success and thus secure long-term financial stability (Lindstrom et al., 2011). A high incidence disability is a disability that is encountered most frequently within the classroom. However, the acquisition of post-secondary and career readiness skills requires students to have the ability to identify their individual disability, strengths, and weaknesses and possess self-determination skills.

Self-Determination Skills

A considerable amount of attention has been devoted to the importance of teaching students with high incidence disabilities self-determination skills while in high school, since the 1990s (Laarhoven-Myers et al., 2016; Shogren et al., 2008; Young, 2007). Self-determination skills encompass a variety of skills that allow students with disabilities to make decisions and choices without the aid of family or agency support. Self-determination instruction involves equipping students with high incidence disabilities with the knowledge and skills necessary to make personal life decisions and the ability to exert more control over their lives (Laarhoven-Myers et al., 2016; Lindstrom et al., 2011; Shogren et al., 2008; Young, 2007). The sub-skills of self-determination include disability awareness, self-advocacy, and goal setting and decision

making skills. Students who possess self-determination skills have the ability to make conscious decisions and cope with the constant changes and demands of school and work environments. They possess the ability to take ownership over their learning and to advocate for their individualized needs and preferences. They respond appropriately to difficult situations they face and continually set and make adjustments to personal goals (Carter et al., 2008; Hadley, 2006; Kreider et al., 2015; Van Laarhoven-Myers et al., 2016; Wehmeyer et al., 2019).

Research has shown that enabling students to acquire and exercise self-determination skills in high school is linked to more positive education, employment, and independent living outcomes (Lee et al., 2011). Families can significantly impact a student's acquisition of self-determination, career readiness, and post-secondary readiness skills.

Family Involvement

Families play a critical role in a child's development and often serve as role models. Thus, family involvement is a critical component of a transition curriculum. Although the involvement of families in the transition planning process for students with disabilities is mandated by state legislation, family involvement is much more than attending meetings. Family involvement includes acceptance of their child's disability, participating in meetings, advocating for their child, setting goals, participating in activities and assignments, and guiding their child as they make decisions (Carter et al., 2009; Fullarton & Duquette, 2015; Landmark et al., 2013; Morningstar, 1997; Piers & Duquette, 2016; Rodriguez et al, 2017; Test and Fowler, 2018; Trainor et al., 2016; Young, 2007).

Family involvement in the transition process has been linked to successful post-secondary outcomes for students with disabilities (Carter et al., 2009; Cavendish & Conner, 2018; Fullarton & Duquette, 2015; Hadley, 2006; Landmark et al., 2013; Morningstar, 1997;

Piers & Duquette, 2016; Rodriguez et al, 2017; Test and Fowler, 2018; Trainor et al., 2016; Young, 2007). However, studies have also shown there needs to be a balance in how involved a family is in the student's transition process (Brown et al., 2016; Fullarton & Duquette, 2015; Rodriguez et al, 2017; Wehmeyer et al., 2019; Young, 2007). Although it is important that families advocate and set goals for their child, it is essential that, as their child gets older, these responsibilities gradually become their child's so they learn to successfully advocate for their needs.

Post-secondary readiness skills, career readiness skills, self-determination skills, and family involvement in the transition process are linked to improved quality of life for students with disabilities after they graduate from high school (Carter et al., 2008; Fullarton & Duquette, 2015; Kreider et al., 2015; Lindstrom et al., 2011 Rodriguez et al., 2017; Young, 2007). Despite this fact, many schools struggle to implement a quality transition curriculum that focuses on this skill set and family involvement. As a result of this, students with disabilities continue to have poor post-secondary training, employment, and independent living outcomes.

Statement of the Problem

The overall employment rates for students with disabilities continues to lag behind those of their peers without disabilities. This contributes to the persistently high poverty rates of students with disabilities (Lindstrom et al., 2011). Studies have shown that students are not being provided with adequate transition curriculum due to a variety of time constraints (Baer et al., 2003; Benz et al., 2000; Carter et al., 2008; Lindstrom et al., 2011; Test & Fowler, 2018). Students are educated in their least restrictive environment. This results in students being included in the general education classroom for the majority of their classes and lacking room in their schedules for a daily transition class. Special education teachers, especially those in rural

districts, are teaching and co-teaching in content areas while also providing students with supports to be successful in the general education classroom (Baer et al., 2003; Test & Fowler, 2018). As a result, student schedules and teacher obligations make it difficult to find a common period for implementation. This results in transition curriculum being implemented haphazardly in fragments when time allows. Thus, students with disabilities continue to graduate without the skills necessary to navigate employment and post-secondary schooling. This results in students often dropping out and struggling to obtain or keep a job their entire lives (Benz et al., 2000; Carter et al., 2009; Izzo et al., 2010; Kreider et al., 2015; Lindstrom et al., 2011; Luecking & Luecking, 2015; Morningstar, 1997; 2014; Piers & Duquette, 2016; Rabren et al., Test et al., 2009; Trainor et al., 2016). This can result in students being unable to financially and self-sufficiently support themselves and result in their dependence on family or public assistance (Lindstrom et al., 2011).

The purpose of this quantitative study is to determine the effectiveness of using Google Classroom to implement a transition curriculum on the post-secondary readiness, career readiness, and self-determination skills of students with high incidence disabilities. A transition curriculum will be developed incorporating research emphasized essential components of a transition curriculum including: age appropriate assessments, individualized and student-centered planning and goal setting, career exploration, post-secondary training exploration, employment preparations, and self-determination (Benz et al., 2000; Fullarton & Duquette, 2015; Herbert et al., 2010; Lombardi et al., 2020; Lindstrom et al., 2011; Lombardi et al., 2020; Morningstar, 1997; Trainor et al., 2016). The curriculum will be student centered and emphasize family involvement.

More specifically this research is designed to answer the following research questions:

1. How does the use of Google Classroom to provide transition curriculum affect the self-determination skills of students with high incidence disabilities?
2. How does the use of Google Classroom to provide transition curriculum affect the post-secondary and career readiness skills of students with high incidence disabilities?

Google Classroom might be the tool to help school districts improve the delivery and instructional methods of providing transition curriculum to students with disabilities. By collecting and analyzing quantitative data using a pre/posttest method, the researcher hopes to determine if Google Classroom can bridge the current gaps schools face when implementing a transition curriculum. The implications of implementing a quality transition curriculum with fidelity for students with disabilities is paramount for improving student success after high school (Izzo et al., 2010; Lombardi et al., 2020; Rodriguez et al., 2017; Test et al., 2018). Acquisition of post-secondary readiness, career readiness, and self-determination skills is essential so that after high school graduation students with disabilities can effectively interact and contribute to their communities independently.

Definitions of Critical Terms

Blended Learning. Blending learning is a style of teaching in which students receive instruction through a combination of technology based and teacher lead instruction.

Disability awareness. Disability awareness is the ability to identify and describe their identified disability and knowledge of their personal strengths and weaknesses.

High Incidence Disabilities. A high incidence disability is a disability that is encountered most frequently within the classroom and include autism spectrum disorders, communication disorders, intellectual disabilities, specific learning disabilities, emotional or behavioral disorders, and other health impairments such as attention deficit disorder.

Google Classroom. Google classroom is an online platform utilized for digital learning. It allows teachers to create and distribute curricular content such as notes, taped instruction, activities, assignments, and assessments. The platform can also be utilized to initiate discussions among peers and video conference.

Post-secondary and Career readiness. Post-secondary and career readiness can be defined as the ability of a student to determine the correct post-secondary program and career that fits their individual interest, abilities, and needs.

Self-advocacy. Self-advocacy is the ability to speak on one's behalf to obtain personal needs and express personal interests.

Self-determination. Self-determination is a person's ability to make decisions and choices relating to their quality of life that are free of influence of others and includes the sub-skills disability awareness, self-advocacy, and goal setting and decision making skills.

Transition Curriculum. A transition curriculum is a curriculum containing student centered activities and lessons that align with student's individualized needs, interests, and abilities and focus on career exploration, post-secondary exploration, career preparations, personal goal setting, and self-determination.

Summary

Due to the continued number of students with disabilities struggling to achieve success at post-secondary settings and obtain and maintain employment, there is relevance for research into a way to provide children with disabilities a quality transition curriculum that accounts for the time constraints special education teachers' face. Lack of success after high school can result in students with disabilities facing years of poverty and struggling to support themselves. It is imperative that school districts implement a quality transition curriculum with fidelity that allows

students the ability to acquire the necessary skills to successfully complete post-secondary schooling or training, acquire and maintain a full-time job, live independently, and successfully contribute to society. Adults with disabilities who complete post-secondary training significantly improve their chances of securing employment and achieving greater levels of financial independence (Fullarton & Duquette, 2015; Lindstrom et al., 2011).Utilizing Google Classroom to provide transition curriculum in a blended format may be the solution to this very problem.

Without the research into the effect of Google Classroom on the post-secondary readiness, career readiness, and self-determination skills of students with high incidence disabilities, the problem will still exist. Teachers will continue to struggle with implementing a transition curriculum with fidelity and students with disabilities will continue to have poor post-secondary outcomes and face a lifetime of struggles. It is imperative that research is conducted to see if utilizing Google Classroom to implement a transition curriculum for students with disabilities can improve their skill acquisition.

Throughout history, the structure of an effective transition curriculum has been debated. The debate surrounds several theories relating to career development for children and adults. Chapter two will examine these various career development theories and the history of transition curriculums for students with disabilities. Additionally, throughout the literature review, focus will be on research supported components and qualities of an effective transition curriculum and the proposed benefits of utilizing Google Classroom to implement a transition curriculum in a blended format.

Chapter 2

Literature Review

Transition is a critical part of a person's lifetime. One of the most significant transitions in a person's life is from high school to a post-secondary school or place of employment. Thus, transition services is an integral part of education programing for students with disabilities (Rodriguez et al., 2017; Test et al, 2009). Transition services involve implementing a curriculum designed to ensure students with disabilities acquire the necessary skills and experiences needed to attain important life outcomes after graduating from high school. A transition curriculum is designed to help students acquire the necessary self-determination, post-secondary readiness, and career readiness skills for successful enrollment in post-secondary schooling or training, employment, community participation, and independent living (Benz et al., 2000; Fullarton & Duquette, 2015; Hadley, 2006; Lee et al., 2011; McConnell et al., 2012; Morningstar, 1997; Rodriguez et al., 2017; Test et al., 2009; Trainor et al., 2016; Wehmeyer et al., 2011, 2019; Young, 2007). Transition curriculums focus on implementing student centered activities and lessons that align with student's individualized needs, interests, and abilities (Benz et al., 2000; Carter et al., 2009; Cavendish & Conner, 2018; Landmark et al., 2013; McConnell et al., 2012; Rodriguez et al, 2017; Test & Fowler, 2018; Trainor et al., 2016; Young, 2007). However, the quantity and quality of transition curriculum students receive continues to depend on the individual student's state and school district (Carter et al., 2008; Lindstrom et al., 2011; Morningstar, 1997).

This chapter will discuss the literature surrounding career development theories and how they have evolved over the years. It will also explore the importance of self-determination skills including the subskills disability awareness, self-advocacy, and goal setting and decision making

skills. Components of effective transition curriculums will be discussed including age appropriate assessments, individualized student centered planning and goal setting, career exploration, and post-secondary exploration. The final component of this literature review will discuss utilizing technology for implementation and the blended learning strategy.

There is a positive correlation between the implementation of a quality transition curriculum and students acquiring self-determination, post-secondary readiness, and career readiness skills (Izzo et al., 2010; Lombardi et al., 2020; Rodriguez et al., 2017; Test et al., 2018). Studies have shown acquisition of this skill set as prediction for a positive post-secondary and employment outcome for students with disabilities (Fullarton & Duquette, 2015; Izzo et al., 2010; Lombardi et al., 2020; Morningstar, 1997; Rodriguez et al., 2017; Test et al., 2009; Test & Fowler, 2018). Studies have also shown a positive correlation between student acquisition of skills and family involvement.

Although family involvement at IEP meetings and transition planning meetings is mandated by federal legislature (IDEA, 2014), family involvement is much more than attending meetings. Family involvement includes acceptance of their child's disability, actively participating in meetings, advocating for their child, setting goals, participating in activities and assignments, and providing their child with support and guidance during the decision making process (Carter et al., 2009; Fullarton & Duquette, 2015; Landmark et al., 2013; Morningstar, 1997; Piers & Duquette, 2016; Rodriguez et al, 2017; Test and Fowler, 2018; Trainor et al., 2016; Young, 2007). However, studies have shown there needs to be a balance in how involved a family is in the student's transition process (Brown et al., 2016; Fullarton & Duquette, 2015; Rodriguez et al, 2017; Wehmeyer et al., 2019; Young, 2007). When a family is too involved and does not transfer any responsibility to their child, their child is at risk for developing learned

helplessness and struggling to acquire self-determination (Brown et al., 2016; Fullarton & Duquette, 2015; Lindstrom et al., 2011). Thus it is important that schools encourage the balance and implement a quality transition that focuses on the development of self-determination and its subskills.

Transition services for students with disabilities is not a new concept. The first transition curriculum was implemented in the 1930's for students with deafness and students with hearing impairments (Morningstar, 1997). However, the first transition curriculum for students with disabilities that addressed employment and career education issues was not implemented until the 1960's (Morningstar, 1997). Even then the structure of an effective transition curriculum was debated. The debate surrounded several theories relating to career development for children and adults (Ginzberg, 1972; Morningstar, 1997; Savickas, 2005; Super, 1953; Wehmeyer et al., 2019).

Career Development Theories

The development of post-secondary and employment readiness for students with disabilities dates back to the introduction of career development theories for children and adults without disabilities (Morningstar, 1997; Wehmeyer et al., 2019). Many of the early theories focused on ideas relating to occupational choice, vocational development, vocational adjustment, and career development. These theories also focused on several factors affecting a child's career readiness development including the role of environment, education, relationships, personal values, and psychological constructs (Super, 1953; Wehmeyer et al., 2019). These factors are still emphasized as core elements that are considered when planning transition curriculums today (Test et al., 2009; Wehmeyer et al., 2019). Some of the early theories stated that career aspirations are developmental in nature while others stated that career development only

occurred during adolescence (Ginzberg, 1972; Morningstar, 1997; Super, 1953; Wehmeyer et al., 2019). Yet other theories emphasize stages of career readiness development. One of these theories was Super's (1953) life span theory of career development (Morningstar, 1997; Super, 1953; Wehmeyer et al., 2019).

Super's life span theory was one of the most significant career readiness development theories that still impacts the field of transition today. Super (1953) proposed that career readiness development was comprised of five predictable major life stages that began at birth and did not end until retirement (Morningstar, 1997; Super, 1953; Wehmeyer et al., 2019). Super's theory supports the current argument that transition curriculums should be implemented for students with disabilities beginning in elementary school and continuing into early adulthood (Hadley, 2006; Morningstar, 1997; Piers & Duquette, 2016; Rodriguez et al, 2017; Wehmeyer et al., 2019). Super (1953) also theorized that career readiness development can be guided and is affected by student interactions. These interactions deal not only with other individuals but also with the environment and experiences (Super, 1953). This theory is still relevant today and supports the important role both teachers and family play in a child's career readiness development (Baer et al., 2003; Benz et al., 2000; Cavendish & Conner, 2018; Fullarton & Duquette, 2015; Landmark et al., 2013; Lindstrom et al., 2011). It also supports the current argument that all students with disabilities need immersed in transition curriculum comprised of a variety of career exploration activities (Benz et al., 2000; Fullarton & Duquette, 2015; Herbert et al., 2010; Lindstrom et al., 2011; Lombardi et al., 2020; Morningstar, 1997; Trainor et al., 2016).

Another career readiness development theory that emphasized stages was Tiedeman's (1961) career decision-making theory. Tiedeman's (1961) proposed career development occurred

in seven sequential stages that could not be skipped and were aligned to Eric Erikson's stage based identity development theory (Wehmeyer et al., 2019). He identified several factors that are still emphasized in transition curriculums today including teaching students decision-making processes. Today we refer to the decision making processes as self-determination skills. Student acquisition of self-determination skills is necessary to guide and support career readiness development (Tiedeman, 1961; Wehmeyer et al., 2019). Just like several factors or Tiedeman's career readiness developmental theory are relevant today so is Ginzberg's theory of occupational choice.

A focus on occupational choice was the basis of the Ginzberg theory. It is often referred to as the theory of occupational choice. It consists of four stages of development. Ginzberg (1972) theorized that a person experienced a period of career development for about ten years. He theorized that experience during career readiness development is important and produces change (Ginzberg, 1972; Morningstar, 1997; Super, 1953). This theory is still present today as several transition curriculums emphasize participation of students with disabilities in a variety of career exploration activities. These experiences vary from: enrolling in a vocational program during high school, participating in job shadowing experience, attending a job fair, and viewing post-secondary programs (Baer et al., 2003; Benz et al., 2000; Fullarton & Duquette, 2015; Herbert et al., 2010; Lindstrom et al., 2011; Lombardi et al., 2020; Morningstar, 1997; Rodriguez et al, 2017; Wehmeyer et al., 2011).

Another component of the theory of occupational choice is compromise (Ginzberg, 1972; Super, 1953). All students must make several decisions about their future by compromising between their interests, capabilities, and opportunities (Carter et al., 2008; Fullarton & Duquette, 2015; Lee et al., 2011; Lindstrom et al., 2011; Morningstar et al., 1997; Rodriguez et al., 2017;

Wehmeyer et al., 2019; Young, 2007). A transition curriculum should address this concept and provide curriculum to help students develop self-determination skills necessary to navigate (Fullarton & Duquette, 2015; Kreider et al., 2015; Lindstrom et al., 2011; Morningstar, 1997; Rodriguez et al., 2017; Young, 2007).

The existence of three periods of occupational choice is the fourth and final component of the theory (Ginzberg, 1972; Super, 1953). It was theorized that career readiness development begins early in an individual's life as they fantasize about different career options. This fantasy evolves to realistic job choice as the individual participates in a variety of career related experiences (Morningstar, 1997; Super 1953). This also supports the present argument of professionals in the transition field that schools need to begin providing children with transition services in elementary school (Hadley, 2006; Morningstar, 1997; Piers & Duquette, 2016; Rodriguez et al, 2017; Wehmeyer et al., 2019).

Career Construction theory is a more current theory that ties together Ginzberg's theory of occupational choice and Tiedeman's career decision making theory (Savickas, 2005; Wehmeyer et al., 2019). The premise of the career construction theory is that careers are built through student interactions and experiences. It is thought that life experience affect and guide occupational choice. The theory emphasizes that individuals make choices that relate to their goals and their role in the work force (Savickas, 2005; Wehmeyer et al., 2019). Another component of career construction theory is career adaptability. Students should set goals, self-monitor and self-evaluate their process, and make necessary adjustments to their goal or plan (Izzo et al., 2010; Lindstrom et al., 2011; Morningstar, 1997; Rodriguez et al., 2017; Savickas, 2005; Wehmeyer et al., 2019). This theory emphasizes the current argument that students with disabilities need provided an opportunity to develop self-determination skills to assist with goal

setting. It also emphasizes the need for students to be provided with a transition curriculum containing a variety of activities focused on career and post-secondary exploration that occurs outside of the classroom.

Super's Life Span Theory, Tiedman's career decision-making theory, Ginzberg theory of occupational choice, and Savickas theory of career construction recognize and emphasize that career readiness is a developmental process (Savickas, 2005; Super, 1953; Morningstar, 1997; Wehmeyer et al., 2019). They also emphasize the need for student immersion in activities that focus on student exploration of careers and post-secondary training (Savickas, 2005; Super, 1953; Morningstar, 1997; Wehmeyer et al., 2019). These theories call for a life planning and construction perspective. Through transition lessons and guidance of family and school personnel, students should begin planning their lives and constructing goals for after graduating from high school. These theories of career development remain a reference for conceptualizing the efforts of a transition curriculum to promote the move of students with disabilities to post-secondary education, employment, and independent living. One concept these theories promote to help students achieve success with this move is the inclusion of self-determination in a transition curriculum.

The Importance and Benefits of Self-Determination Skills

Active participation in personal IEP meetings improves the outcomes of individuals with disabilities in post-secondary schooling, employment, and independent living (Lee et al., 2011; Van Laarhoven-Myers, 2016; Young, 2007). However, active participation requires the student possesses self-determination skills (Lee et al., 2011). IDEA requires that individuals with disabilities be invited to attend their IEP meetings beginning at the age of 16 (Lee et al., 2011). However, studies have shown that an invite and attendance does not mean that individuals are

active participants and that the majority report lacking knowledge related to how to participate in their IEP meetings (Lee et al., 2011; Young, 2007). Studies have even shown that some individuals lack knowledge relating to what an IEP is and how it relates to their lives (Hadley, 2006; Young, 2007). Therefore it is imperative that students be provided direct instruction to improve their self-determination skills.

The development of self-determination skills is critical for students with disabilities. The skill set allows students to fully participate in their post-secondary training, places of employment, and community. Individuals who are self-determined take charge and make things happen in their own lives. Self-determined individuals take ownership of their learning and engage, initiate, and make adjustments when faced with trials (Carter et al., 2008; Fullarton & Duquette, 2015; Kreider et al., 2015; Lindstrom et al., 2011; Morningstar, 1997; Rodriguez et al., 2017; Young, 2007; Wehmeyer et al., 2019). Research has shown a positive correlation between students possessing self-determination skills and positive post-secondary, employment, and independent living outcomes (Benz et al., 2000; Fullarton & Duquette, 2015; Hadley, 2006; Lee et al., 2011; McConnell et al., 2012; Morningstar, 1997; Rodriguez et al., 2017; Test et al., 2009; Trainor et al., 2016; Van Laarhoven-Myers et al., 2016; Wehmeyer et al., 2011, 2019; Young, 2007). However despite these positive correlations, many school districts do not provide students with support, instruction, or IEP goals that promote self-determination skills (Carter et al., 2009; Hadley, 2006; Kreider et al., 2015; Lee et al., 2011; Rodriguez et al., 2017; Young, 2007). Self-determination skills encompass a variety of skills that allow students with disabilities to make decisions and choices without the aid of family or agency support. Subskills of self-determination include: disability awareness, self-advocacy, choice making and goal setting skills (Carter et al., 2008; Kreider et al., 2015; Lindstrom et al., 2011; Young, 2007).

Disability Awareness Skills

Disability awareness can be defined as individuals having the ability to identify and describe their identified disability (Kreider et al., 2015; Piers & Duquette, 2016). Understanding one's disability provides the foundation for all transition skills (Carter et al., 2008; Fullarton & Duquette, 2015; Hadley, 2006; Kreider et al., 2015; McConnell et al., 2012; Piers & Duquette, 2016; Wehmeyer et al., 2019). Students possessing disability awareness skills are aware of their disability but they do not let it define who they are. They possess knowledge of their strengths and weaknesses. They know how it affects the way they learn and what accommodations they need to be successful. They should be able to explain their disability to others and ways different accommodations help them achieve success in the classroom, work environment, and community. Students should be provided with guided practice starting at an early age to gain critical self-advocacy and self-awareness skills (Kreider et al., 2015; Morningstar, 1997; Piers & Duquette, 2016). However, studies have shown that the majority of graduating seniors with disabilities do not have disability awareness skills (Fullarton & Duquette, 2015; Kreider et al, 2015; Young, 2007).

Disability awareness should also include instruction relating to their IEP. In order to be active members in their IEP meetings, students must first understand the importance and purpose of the document and meeting. Students must also understand their rights and role associated with the IEP document and meeting (Fullarton & Duquette, 2015; Kreider et al., 2015; Young, 2007). Possessing this knowledge allows students to be active participants and allows students to take ownership over their learning.

A student's family plays a critical role in the development of a student's disability awareness skills. Research has shown when families speak openly with their student about their

disability soon after identification, students develop a better understanding and knowledge base of their disability (Fullarton & Duquette, 2015; Kreider et al., 2015; McConnell et al., 2012; Piers & Duquette, 2016). Students develop an authentic understanding of their abilities as a learner and employee. They are able to accept their disability with the support of their family (Fullarton & Duquette, 2015; Piers & Duquette, 2016). However, when families do not accept their child's identification, it can leave the child uneducated and unaware. These children lack an important knowledge base they need in order to request later services and accommodations to be successful. It can often leave students confused and in denial of possessing a need for assistance (Fullarton & Duquette, 2015; Piers & Duquette, 2016). Students must possess an understanding of their disability symptoms and have a positive self-perception in order to set attainable goals and courses of action for their lives (Benz et al., 2000; Fullarton & Duquette, 2015; Kreider et al., 2015; Piers & Duquette, 2016). Lacking these qualities can result in a student's decision to set unrealistic goals or not to pursue required supports for success.

Self-Advocacy Skills

Self-Advocacy skills can be defined as the ability of an individual to request services and accommodations to meet their individual needs (Carter et al., 2008; Fullarton & Duquette, 2015; Hadley, 2006). Self-advocacy builds upon the individuals' disability awareness skills. It is essential that individuals with disabilities are able to identify their disability and prescribed accommodations in order to properly advocate for themselves (Carter et al., 2008; Fullarton & Duquette, 2015; Hadley, 2006; Kreider et al., 2015; Lindstrom et al., 2011; McConnell et al., 2012; Morningstar et al., 2017; Piers & Duquette, 2016; Rodriguez et al., 2017; Young, 2007). Studies show that individuals with disabilities should begin advocating for their accommodations

in high school while special education teachers still have the ability to provide them with support (Carter et al., 2008; Kreider et al., 2015).

Under the Americans with Disabilities Act and Section 504, individuals with disabilities are entitled to be provided with reasonable accommodations at their post-secondary school (Hadley, 2006; Kreider et al., 2015). However the students are responsible for establishing a relationship with the disability services office and requesting accommodations from professors or instructors (Hadley, 2006; Kreider et al., 2015; Piers & Duquette, 2016). Family members and disability service staff members do not have the ability to make accommodation requests (Hadley, 2006; Kreider et al., 2015; Piers & Duquette, 2016). Students lacking self-advocacy skills often leads to poor post-high outcomes for students with disabilities (Kreider et al., 2015; Morningstar, 1997; Young, 2007). Students must possess the ability to self-advocate for accommodations in the work place, school, and the community in order to achieve success (Carter et al., 2008; Fullarton & Duquette, 2015; Hadley, 2006; Kreider et al., 2015; Lindstrom et al., 2011; McConnell et al., 2012; Morningstar et al., 2017; Piers & Duquette, 2016; Rodriguez et al., 2017; Young, 2007). As a result, it is imperative that individuals have the ability to self-advocate when they graduate from high school

Families of students with disabilities and teachers play an important role in the development of self-advocacy skills. Students who are encouraged by their families and teachers to begin advocating for accommodations, modifications, and services in high school, are more inclined to be successful in post-secondary placements and employment. This presents an opportunity for special education teachers to mentor and support students in the development of self-advocacy skills (Carter et al., 2008; Kreider et al., 2015). However, there needs to be a balance between how involved a family is in the student's transition process (Brown et al., 2016;

Fullarton & Duquette, 2015; Rodriguez et al, 2017; Wehmeyer et al., 2019; Young, 2007). Students, whose parents and teachers do not work to shift responsibilities to the student and instead continue to advocate for their services and accommodations, are not provided with opportunities to self-advocate for themselves before post-secondary training. These students often report feeling uncomfortable or unable to make such requests and often are unsuccessful at post-secondary schools as a result. This is partly due to the fact that some students acquire learned helplessness (Fullarton & Duquette, 2015; Hadley, 2006; Kreider et al., 2015; Young, 2007). Learned helplessness is the belief that one is incapable of completing the task or tasks at hand (Brown et al., 2016). Thus, students possessing learned helplessness do not believe they are capable of advocating for accommodations they require to achieve success. They may also believe they are incapable of making any decisions about their future or setting appropriate goals. (Brown et al., 2016; Fullarton & Duquette, 2015; Lindstrom et al., 2011). Therefore it is important that teachers encourage the shift of responsibilities to students to help them acquire self-advocacy skills. It is also important that they provide students with disabilities with instruction focusing on goal setting and decision making skills.

Goals Setting and Decision Making

Goal setting and decision making skills builds upon a student's disability awareness. Students must possess knowledge relating to their strengths and weaknesses in order to set appropriate goals and make important decisions. Researchers emphasize the best way to improve a student's goal setting and decision making skills is for students to actively participate and take ownership of their transition planning and learning (Rodriguez et al, 2017; Wehmeyer et al., 2019; Young, 2007). However, a student's goals should start broad and become more specific as students complete transition activities such as career and post-secondary training exploration

(Izzo et al., 2010; Lindstrom et al., 2011; Morningstar, 1997; Rodriguez et al., 2017). Goal setting in high school allows students to set goals and benchmarks under the guidance of their teachers and family.

Families and teachers can impact a student's goal setting and decision making skills. When families have high expectations for students and participate in their IEP meetings, students with disabilities are more inclined to set high standards for themselves. Students are more inclined to set goals that will require diligence to achieve but are not unattainable (Fullarton & Duquette, 2015; Rabren et al., 2014). However, when families are absent and make no effort to participate in the IEP meeting or transition process, it is imperative that teachers fill that void. Teachers must serve as mentors for their students. It is their job to set high standards for all students and serve as a guide throughout the exploration and planning process (Baer et al., 2003; Benz et al., 2000; Fullarton & Duquette, 2015; Lindstrom et al., 2011; Rabren et al., 2014).

Researchers have shown a positive correlation between students being provided opportunities to make personal decisions in high school and positive post-high school outcomes (Carter et al., 2008; Fullarton & Duquette, 2015). Students need to be provided with opportunities to make decisions that result in success and failure while they are still in high school. However, all too often family members and teachers take this ability and responsibility away from students. One way teachers and schools can help students develop and strengthen their decision making skills is providing students an opportunity to plan their high school course schedules (Carter et al., 2008; Fullarton & Duquette, 2015). High schools offer a plethora of course options for students to choose from. Therefore, students are provided an opportunity to use their disability awareness, goal setting, and decision making skills to plan their schedule while being guided by school personnel and family (Carter et al., 2008; Fullarton & Duquette,

2015). Students enrolling in post-secondary training will be required to make similar decisions but independently.

Students must arrive at their place of employment, post-secondary school, or training facility determined; aware of their disabilities, strengths, and weaknesses; and able to advocate effectively for the supports and services they need to be successful. Students must be able to set, adjust, and complete appropriate goals. They must also have the ability to make decisions and possess problem solving skills. Research confirms that students possessing these self-determination skills have positive life outcomes (Benz et al., 2000; Fullarton & Duquette, 2015; Hadley, 2006; Lee et al., 2011; McConnell et al., 2012; Morningstar, 1997; Rodriguez et al., 2017; Test et al., 2009; Trainor et al., 2016; Van Laarhoven-Myers et al., 2016; Wehmeyer et al., 2011, 2019; Young, 2007). They are able to be successfully enrolled in post-secondary training, possess and maintain a job, live independently, and contribute to their communities. They possess the skills to be independent and not rely heavily on their families and agencies for support. However, researchers argue that a transition curriculum should be designed to help students acquire post-secondary and career readiness skills in addition to self-determination skills (Benz et al., 2000; Fullarton & Duquette, 2015; Herbert et al., 2010; Lombardi et al., 2020; Lindstrom et al., 2011; Lombardi et al., 2020; Morningstar, 1997; Trainor et al., 2016).

Transition Curriculum Components

Post-secondary and career readiness skills are a common theme for transition curriculums for students with disabilities. However, this term continues to be vaguely defined. Many efforts to adapt and change transition curriculums do not converge. Instead they occur separately and in isolation resulting in contradictory results (Lombardi et al., 2020; Morningstar et al., 2017). For example, schools often develop transition programs, social-emotional support services, and

behavior interventions for students separately instead of converging them to create a program that would prepare students with disabilities for a successful post-high school outcome (Lombardi et al., 2020; Wehmeyer et al., 2019). Changes and adaptations to career readiness development theories that exist appear to still need attention as technological advancements continue to radically change work environments and the skill set required to achieve success (Morningstar et al., 2017; Wehmeyer et al., 2019). The vague definition of an effective transition curriculum and the variety of career readiness development theories in existence has resulted in a variety of transition curriculum models that schools all over the United States are implementing. It has also left many in the transition field continuing to strive to determine what components encompass an effective transition curriculum (Benz et al., 2000; Lombardi et al., 2017, 2020; Morningstar, 1997; Super, 1953; Test et al., 2009; Wehmeyer et al., 2019). Despite this, researchers have emphasized several components a quality transition curriculum should contain to assist students to acquire essential post-secondary and career readiness skills. The components emphasized by the researchers include: (a) age appropriate assessments, (b) individualized and student-centered planning and goal setting, (c) career exploration, (d) post-secondary training exploration, and (e) employment preparations (Benz et al., 2000; Fullarton & Duquette, 2015; Herbert et al., 2010; Lombardi et al., 2020; Lindstrom et al., 2011; Lombardi et al., 2020; Morningstar, 1997; Trainor et al., 2016).

Age Appropriate Assessments

Age appropriate assessments are central to the transition of students with disabilities. Not only are they required under IDEA 2004, but they provide teachers, family members, and the student (team members) with pertinent information related to student abilities and interests (Benz et al., 2000; Carter et al., 2009; Izzo et al., 2010; Lombardi et al., 2020; Herbert et al., 2010;

Rodriguez et al., 2017; Trainor et al., 2016; Van Laarhoven-Myers et al., 2016). There are many different styles of transition assessments that can be implemented. However, all students with disabilities should be assessed with a comprehensive assessment to provide the team members with information relating to the student's academic grade levels such as reading comprehension, fluency, math computation, etc. (Carter et al., 2009; Herbert et al., 2010). This enables the team to determine areas of strength and need for the student. Researchers have found students with disabilities, who are aware of their personal strengths and needs, are more likely to successfully participate in post-secondary training and employment (Izzo et al., 2010; Lindstrom et al., 2011; Kreider et al., 2015; McConnell et al., 2012). Knowing a student's strengths and needs allows the team to determine extra supports and services the student should receive during and after high school (Benz et al., 2000; Carter et al., 2009; Herbert et al., 2010; Lindstrom et al., 2011; McConnell et al., 2012; Rodriguez et al., 2017).

All undecided students should be administered an age appropriate career interest inventory (Morningstar, 1997; Herbert et al., 2010; Izzo et al., 2010; Lindstrom et al., 2011; Lombardi et al., 2020). Career interest inventories align student personalities and interests to different careers and majors (Herbert et al., 2010; Lombardi et al., 2020). The results of this assessment can help students focus their career exploration activities. They can also serve as a guide for helping the teacher and team members assign appropriate transition activities for the student (Benz et al., 2000; Carter et al., 2009; Herbert et al., 2010; Lindstrom et al., 2011; Lombardi et al., 2020).

Individualized and Student-Centered Planning and Goal Setting

All transition plans for students with disabilities should be individualized and student-centered. Individualized plans can be defined as plans that align to the individual student's

interests, post-secondary goals, career goals, strengths, and needs (Benz et al., 2000; Carter et al., 2009; Cavendish & Conner, 2018; Landmark et al., 2013; McConnell et al., 2012; Rodriguez et al, 2017; Test & Fowler, 2018; Trainor et al., 2016; Young, 2007). The team should utilize the information gathered through the assessments to create a student's transition plan or map. IDEA 2004 mandates that the IEPs of transition aged students include individualized, measurable and appropriate post-secondary goals. All students need an IEP related to post-secondary training/schooling, employment, and independent living. They are mandated to be included in the IEP no later than the age of 16 (Benz et al., 2000; Carter et al. 2009; Lee et al., 2011; Lombardi et al., 2020; Trainor et al., 2016; Van Laarhoven-Myers et al., 2016). Researchers argue that this is not soon enough for students with disabilities to have a transition plan in place. With some students graduating at age 17, researchers feel that transition goals and services should begin before high school (Hadley, 2006; Lee et al., 2011; Morningstar, 1997; Piers & Duquette, 2016; Rodriguez et al, 2017; Wehmeyer et al., 2019). In the state of Pennsylvania, the goals must be included in the students' IEPs no later than age 14 (Herbert et al., 2010).

Emphasis should be placed on the student being an active member and participant of the team. Student participation in the planning and goal setting process improves the post-high school outcomes of students with disabilities (Benz et al., 2000; Izzo et al., 2010; Lee et al., 2011; Lombardi et al., 2017; Rodriguez et al., 2017; Trainor et al., 2016; Van Laarhoven-Myers et al., 2016). However, studies have shown that schools frequently fail to include the students in the planning process (Lee et al., 2011; Rodriguez et al., 2007; Van Laarhoven-Myers et al., 2016). Despite legislature mandates, students frequently do no attend their IEP meetings (Lee et al., 2011; Rodriguez et al., 2017; Van Laarhoven-Myers et al., 2016). This often leads to generic and sometimes inappropriate transition goals being set for students (Lee et al., 2011; Rodriguez

et al., 2017; Van Laarhoven-Myers et al., 2016; Young, 2007). This is alarming given there continues to be disappointing post-secondary and employment outcomes for students with disabilities.

Career Exploration

Career exploration activities allow students to begin developing and strengthening their career readiness skills. Students with disabilities should be encouraged to research and explore careers of interest or careers determined by interest surveys (Baer et al., 2003; Benz et al., 2000; Fullarton & Duquette, 2015; Herbert et al., 2010; Lindstrom et al., 2011; Lombardi et al., 2020; Morningstar, 1997; Rodriguez et al, 2017; Wehmeyer et al., 2011, 2019). However, teachers should guide the exploration process or career guidance systems should be used to help students focus their research (Herbert et al., 2010; Lindstrom et al., 2011; Lombardi et al., 2020; Morningstar, 1997). Students should be encouraged to not only research but also compare and contrast different careers of interest. Career exploration activities are important because studies have shown that individuals lacking career choice have a more difficult time acquiring and maintaining a job after graduation (Carter et al., 2008; Lindstrom et al., 2011; Morningstar, 1997). However, families should be involved and included in the career exploration process.

Families play a critical role in career exploration (Landmark et al., 2003; Morningstar, 1997). Family members serve as role models for students and students often aspire to pursue the careers of family members they are close with. Students are more inclined to be interested in a career of a parent or grandparent because it is familiar. Researchers have shown that family involvement and emphasis placed on the careers of family members, improves the development of student career goals (Fullarton & Duquette, 2015; Landmark et al., 2013; Morningstar, 1997). However, transition programs lacking family involvement outside of participation in IEP

meetings have a negative effect on the career readiness development of students (Landmark et al., 2013; Morningstar, 1997). Family involvement does not require face-to-face interactions (Cavendish & Conner, 2018; Landmark et al., 2013). Simple ways to increase family members' involvement in the transition curriculum is the inclusion of assignments involving family interviews or sharing student exploration activities with family members (Cavendish & Conner, 2018; Landmark et al., 2013). Topics of the family interviews can include family careers, family reactions to career interest survey results, and family input in regards to career exploration activities. Career exploration does not only include activities in the classroom but should also include activities in the student's community.

Career exploration must go beyond research and beyond the classroom walls (Baer et al., 2003; Benz et al., 2000; Fullarton & Duquette, 2015; Herbert et al., 2010; Lindstrom et al., 2011; Morningstar, 1997; Rodriguez et al, 2017; Trainor et al., 2016). Career research should also include activities that allow the students to build connections within the field. Such activities can include job shadowing, work based learning, career fairs, paid work experience in field of interest, and participation in a high school vocational learning program (Benz et al., 2000; Fullarton & Duquette, 2015; Herbert et al., 2010; Lindstrom et al., 2011; Luecking & Luecking, 2015; McConnell et al., 2012; Rodriguez et al., 2017). There is a correlation between students building connections within the field through the development of career readiness skills and improved post-secondary and employment outcomes (Lindstrom et al., 2011; Luecking & Luecking, 2015; McConnell et al., 2012). However, individuals need to complete career exploration activities and job shadowing experiences in fields of interest, before enrolling in a vocational program (Lindstrom et al., 2011; Morningstar, 1997; Rabren et al., 2014). Studies have shown that the majority of individuals graduating from high school vocational programs are

obtaining jobs in different fields than their certifications (Lindstrom et al., 2011; Morningstar, 1997). This may have been prevented, if students were provided an opportunity to explore and experience the work environment before enrolling in the high school vocational program. Students should also be provided with an opportunity to complete post-secondary training exploration before enrolling in a program.

Post-Secondary Training Exploration

Post-secondary exploration allows students to develop and strengthen their post-secondary readiness skills. Post-secondary training exploration first involves students researching, comparing, and contrasting their post-secondary options including universities, colleges, community colleges, trade schools, technical schools, and apprenticeship programs. Teachers should guide student research to ensure they consider several factors including not only their desired major but also cost of tuition, availability of disability services, availability of housing, and feasible commuting distance (Fullarton & Duquette, 2015; Izzo et al., 2010; Lombardi et al., 2020; Rodriguez et al., 2017).

By researching the post-secondary schools, students not only acquire pertinent information about the school, but they also learn to navigate the school website. Navigating a post-secondary schools' website is a necessity today. The school website is utilized for scheduling classes, accessing transcripts, contacting student services, paying tuition bills, etc. (Izzo et al., 2010; Lombardi et al., 2020; Morningstar et al., 2017).

Obtaining information about disability services offered at the post-secondary school is also imperative for students with disabilities. Several studies have shown students dropping or failing out of post-secondary placements due to lack of services or services they require to be successful (Fullarton & Duquette, 2015; Hadley, 2006; Kreider et al., 2015; Young, 2007). Post-

secondary exploration should also include activities focusing on filling out post-secondary and scholarship applications, financial aid, and practice writing essays (Herbert et al., 2010; Izzo et al., 2010; Lombardi et al., 2020; Morningstar et al., 2017). This enables teachers to help students jump start their progress towards achieving their post-secondary goals.

Post-secondary exploration also goes beyond the school building (Fullarton & Duquette, 2015; Herbert et al., 2010; Lindstrom et al., 2011; Rodriguez et al., 2017; Trainor et al., 2016). Activities allowing the students to build connections within the post-secondary campus are critical and strengthen a student's post-secondary readiness skills. Such activities include field trips to tour the post-secondary campus or training facility, college fairs, trade fairs, opportunities to attend classes, opportunities to interact with current students and school staff, attending open houses, and opportunities to interact with coaches and players if a high school athlete (Fullarton & Duquette, 2015; Herbert et al., 2010; Lindstrom et al., 2011; Rodriguez et al., 2017; Trainor et al., 2016). Poor post-secondary outcomes occur when students are not provided with opportunities to interact with and explore their post-secondary school before enrolling in classes (Lindstrom et al., 2011; Rodriguez et al., 2017). The lack of opportunity leads to underdeveloped post-secondary readiness skills leading to students dropping out. Students reported lack of disability services and feeling overwhelmed by the class sizes and campus size as reasons for dropping out (Fullarton & Duquette, 2015; Hadley, 2006; Kreider et al., 2015; Young, 2007).

Employment Preparations

Employment preparations are an important part of a transition curriculum for students with disabilities (Baer et al., 2003; Fullarton & Duquette, 2015; Herbert et al., 2010; Izzo et al., 2010; Lindstrom et al., 2011; Lombardi et al., 2020; Luecking & Luecking, 2015; Morningstar et al., 2017; Rodriguez et al, 2017). Employment preparations assist with the development of a

student's career readiness skills and are essential for all students to learn. Employment preparations can be defined as a skill set individuals learn to assist with the process of acquiring employment. They are skills individuals must possess to gain employment. Employment preparations include learning how to create a resume, writing a cover letter, learning how to load or create a resume online, learning how to search for jobs in a newspaper and online, learning how to fill out paper and electronic applications, and learning interview etiquette (Izzo et al., 2010; Lindstrom et al., 2011; Lombardi et al., 2017, 2020; Luecking & Luecking, 2015; Morningstar et al., 2017). Studies have shown that participation in multiple mock job interviews that require professional dress improves employment outcomes (Lindstrom et al., 2011; Lombardi et al., 2017, 2020; Luecking & Luecking, 2015; Morningstar et al., 2017). There is a positive correlation between students who acquire employment in high school and increased career readiness skills leading to successful post-secondary and employment outcomes (Lindstrom et al., 2011; Luecking & Luecking, 2015; McConnell et al., 2012).

Employment preparations also include study skills which are important for the development of both post-secondary and career readiness skills. Study skills include note-taking, working collaboratively in groups, organizational skills, study habits, and time management skills. Studies have shown that students entering the work force or post-secondary training after high school also benefit from the ability to prioritize their time (Kreider et al., 2015; Morningstar et al., 2017; Rodriguez et al., 2017). Students with disabilities have reported spending more time than their non-disabled peers studying and completing work (Fullarton & Duquette, 2015; Kreider et al., 2015). As a result, it is important that the students are able to schedule their time accordingly. It is also important that they are organized in order to meet important deadlines.

Age appropriate assessments, individualized and student-centered planning and goal setting, career exploration, post-secondary training exploration, and employment preparations, are all essential components of a quality transition curriculum for students with disabilities. A quality transition curriculum assists students in acquiring the post-secondary and career readiness skills needed for students to be successful after high school. However, given the requirement for students with disabilities to be educated in their least restrictive environment, schools are struggling to find time to implement a transition curriculum with fidelity resulting in students lacking post-secondary readiness, career readiness, and self-determination skills. It raises the question of when, where, and how are educators to provide students with transition services in order to promote development of the skill set students need to be successful after high school (Benz et al., 2000; Carter et al., 2008; Lindstrom et al., 2011).

Utilizing Technology for Implementation

IDEA 2004 and No Child Left Behind of 2001 require that schools educate students in their least restrictive environments (Carter et al., 2008; Wehmeyer et al., 2019). They also require that students access the same rigorous curriculum as their nondisabled peers (Carter et al., 2008; Wehmeyer et al., 2019). This emphasis on students accessing the general curriculum as frequently as appropriate leaves several school districts struggling to find time to implement a transition curriculum with fidelity. The schedules of students are full of core classes and electives in the general education classroom making it difficult to find a common period for a transition class (Carter et al., 2008; Test & Fowler, 2018; Wehmeyer et al., 2019). Teachers in small and rural districts often teach or co-teach core subjects in addition to serving as the districts transition coordinator for students with disabilities (Baer et al., 2003; Test & Fowler, 2018). Using technology for implementation can improve student acquisition of post-secondary

readiness, career readiness, and self-determination skills (Lee et al., 2011; Lombardi et al., 2019, 2020; Wehmeyer et al., 2019). So could the use of technology be the answer for finding time to implement a transition curriculum with fidelity?

ESSA 2015 outlines the use of digital or blended learning for the implementation of a transition curriculum (Lombardi et al., 2019, 2020). It calls for school districts to utilize technology to strengthen student learning and acquisition of skills (Lombardi et al., 2019, 2020). This includes using word processing programs, web-based program, computer based assessments, and web-based search engines. The use of technology and blended learning expands the ways teachers are able to present and provide students with transition instruction. It creates flexibility for how students receive and respond to instruction. Blended programs allow teachers to assign students specific modules that align to their areas of interest and need while also providing time for teachers to mentor and collaborate with the students (Lee et al., 2011; Lombardi et al., 2020). This flexibility can account for the issue of time that many special education teachers face when trying to implement a transition curriculum with fidelity. Teachers can assign work for students to complete during a convenient time for the individual students. Teachers can then meet with students at mutually convenient times to discuss the completed assignments and for students to receive guidance and input. However, flexibility is not the only benefit of a blended program.

Blended programs allow teachers to include families in the transition process. Several online platforms, including Google Classroom, allow teachers to add family members as collaborators (Iftakhar, 2016; Rosita et al., 2020). This enables families to provide input and guidance and stay connected with their child’s transition process. Studies have shown that family involvement improves the career readiness skills of students with disabilities (Carter et al., 2009;

Cavendish & Conner, 2018; Fullarton & Duquette, 2015; Hadley, 2006; Landmark et al., 2013; Morningstar, 1997; Piers & Duquette, 2016; Rodriguez et al, 2017; Test and Fowler, 2018; Trainor et al., 2016; Young, 2007). The use of technology has also been shown to improve student engagement with and accessibility of a transition curriculum (Lee et al., 2011; Lombardi et al., 2019, 2020; Wehmeyer et al., 2019). Students acquire more skills when they are engaged and interact with the curriculum.

Technological advancements continue to radically change work environments and the skill set required to achieve success (Iftakhar, 2016; Izzo et al., 2010; Lee et al., 2011; Lombardi et al., 2017, 2020; Morningstar et al., 2017; Rosita et al., 2020; Wehmeyer et al., 2019). Students with disabilities enrolling in post-secondary training or schools must now be able to navigate a computer and websites to complete classwork, access class materials, schedule courses, and in some instances complete assessments and turn in assignments. Students also must be able to extract information from online sources (Lombardi et al., 2017, 2020). Many places of employment now require that students are able to navigate a computer and the internet. In several instances, to apply for a job or post-secondary training or schooling, students must have the ability to access and complete applications on online (Izzo et al., 2010; Lee et al., 2011; Lombardi et al., 2017, 2020). However, the utilization of technology for transition instruction, improves a student's technological skills (Izzo et al., 2010; Lombardi et al., 2017, 2020; Lee et al., 2011). Lacking technological skills can negatively impact students. It can result, in low wage jobs, post-secondary school failure, and limited opportunities for career advancements (Lombardi et al., 2017, 2020).

The utilization of technology for the implementation of a transition curriculum has shown to not only improve a student's technological skills but also their self-determination, career

readiness, and reading comprehension skills (Izzo et al., 2010; Lombardi et al., 2017, 2020; Lee et al., 2011; Wehmeyer et al., 2011). Several researchers utilized a technology-based transition curriculum, Envision IT, which was created by Ohio State University. This program requires students to complete assignments on the computer using an online platform entitled Schoology, Microsoft Office, and web-based search engines. Envision IT covers several transition components including career exploration, career preparation, goal setting, and self-determination skills (Izzo et al., 2010; Lombardi et al., 2020). Researchers found a significant gain in students with disabilities self-reported career readiness scores (Lombardi et al., 2020). Researchers also reported increased transition knowledge in the areas of goal setting, finding jobs, and finding information about colleges (Lombardi et al., 2017). Other researchers found improved student self-determination scores (Lee et al., 2011). This shows that the use of an online platform, word processing and presentation software, and web-based search engines to implement a transition curriculum can improve students' post-secondary readiness, career readiness, and self-determination skills. So, would other online platforms result in the same success for students?

Utilizing Google Classroom

Google Classroom is an online platform that is free for schools and nonprofit institutions to use (Iftakhar, 2016; Rosita et al., 2020). However, it is a part of an even larger collection of Google applications entitled G suite that does cost the district money (Johns et al., 2017; Rosita et al., 2020). Google Classroom allows teachers to post assignments, videos, tests, quizzes, surveys, notes, and discussion posts. It allows students and teachers to interact through comments, discussion boards, and video chat through the utilization of the Google Meet video chat feature. The variety of features allow teachers to utilize the platform to maximum student learning and improve student technological stills (Iftakhar, 2016; Johns et al., 2017; Rosita et al.,

2020). The Google Classroom platform can be utilized for a blended learning platform or a fully online environment. This is essential given the recent COVID-19 pandemic that left many school districts scrambling to provide students with services such as transition services (Hooker, 2020; Iftakhar, 2016; Rosita et al., 2020). Google Classroom and G suite contain a plethora of tools and resources for teachers and students.

Google classroom and G suite allow students and teachers to share work with others and attach a family member's email to a student account (Iftakhar, 2016; Johns et al., 2017; Rosita et al., 2020). This allows teachers to share assignments and work with families. This also allows students to receive feedback from their family members. This is a critical feature considering several studies have shown that family engagement with the transition process improves student outcomes (Carter et al., 2009; Cavendish & Conner, 2018; Fullarton & Duquette, 2015; Hadley, 2006; Landmark et al., 2013; Morningstar, 1997; Piers & Duquette, 2016; Rodriguez et al, 2017; Test and Fowler, 2018; Trainor et al., 2016; Young, 2007). However, studies have shown several barriers prevent families from becoming engaged including time and other children (Cavendish & Conner, 2018; Landmark et al., 2013; Rodriguez et al, 2017). Family members have work commitments or other children at home that do not allow them to frequently attend meetings. However, by sharing student work with families, they can stay involved in the transition process. Documents could be easily printed for families without access to technology at home.

Google classroom allows teachers to implement a curriculum that is individualized, interactive, and engaging. The flexibility of the program allows teachers to implement curriculum when students have availability. It also allows for implementation in a blended format or completely online platform ensuring that student transition services could be continued even if schools must close again. However, would the utilization of Google Classroom have an

effect on the acquisition of post-secondary readiness, career readiness, and self-determination skills if utilized to implement a transition curriculum?

Conclusion

Implementing a transition curriculum for students with disabilities is not a new concept. However, there is a gap in what researchers emphasize as essential components of a transition curriculum and what school districts are providing. This gap is the result of several factors and a call for concern. Students with disabilities need to be provided with an effective transition curriculum in order to acquire the necessary skill set to be successful after graduating from high school.

The gap in transition curriculum implementation is partly the product of technological advancements. Technology continues to radically change work environments and the skill set required to achieve success in post-secondary schooling and training. To be successful after high school, students must be able to use a computer and navigate the internet. Utilizing technology for implementation of the transition curriculum, though, can help students acquire these ever changing and essential skills.

The gap is also the product of lack of time. Students are educated in their least restrictive environment resulting in students being included in the general education classroom for the majority of their classes. This also results in lack of room in student schedules for a transition class that meets every day. Special education teachers, especially those in rural districts, are teaching and co-teaching in content areas while also providing students with supports to be successfully in the general education classroom. Student schedules and teacher obligations make it difficult to find a common period for implementation. This results in transition curriculum

being implemented haphazardly and without fidelity. However, the utilization of an online platform such as Google Classroom, may be the answer to this problem.

Google Classroom is an online platform that is easily accessible by students when they have availability in their schedules. Teachers can individualize student assignments based on student interests, needs, and learning preferences. It can be utilized in a blended format to provide flexibility to instruction and continued teacher mentoring and guidance throughout the transition process. Google classroom also allows for the inclusion of family members so they can stay involved in the transition process.

It is imperative that school districts strive to implement a quality transition curriculum for students with disabilities. Too many students are graduating from high school lacking post-secondary readiness, career readiness, and self-determination skills that are imperative for student success because schools are not implementing quality curriculums with fidelity. There is a gap in research to determine if utilizing Google Classroom to implement a quality transition curriculum will improve student acquisition of post-secondary readiness, career readiness, and self-determination skills. Given the tools and flexibility of Google Classroom, it may be the tool that school districts need to improve the accessibility and implementation of transition curriculums.

Purpose

The purpose of this study is to improve the post-high school outcomes of students with disabilities. Students are graduating from high school lacking skills that are imperative for their success (Benz et al., 2000; Carter et al., 2009; Izzo et al., 2010; Kreider et al., 2015; Lindstrom et al., 2011). Studies show that students with disabilities continue to have poor post-secondary and employment outcomes (Benz et al., 2000; Carter et al., 2009; Izzo et al., 2010; Kreider et al.,

2015; Lindstrom et al., 2011; Luecking & Luecking, 2015; Morningstar, 1997; 2014; Piers & Duquette, 2016; Rabren et al., Test et al., 2009; Trainor et al., 2016). This results in students relying on family members and services in order to have their basic needs met. As a result, high schools must make it a priority to provide students with a quality transition curriculum.

Google Classroom might be the tool to help school districts improve the delivery and instructional methods of providing transition curriculum to students with disabilities. By collecting and analyzing quantitative data using a pre/posttest method, researchers hope to determine if Google Classroom can bridge the current gaps schools face when implementing a transition curriculum. The implications of implementing a quality transition curriculum with fidelity for students with disabilities is paramount for improving student success after high school. Acquisition of post-secondary readiness, career readiness, and self-determination skills is essential so that after high school graduation students with disabilities can effectively interact and contribute to their communities independently.

Research Questions

1. How does the use of Google Classroom to provide transition curriculum affect the self-determination skills of students with high incidence disabilities?
2. How does the use of Google Classroom to provide transition curriculum affect the post-secondary and career readiness skills of students with high incidence disabilities?

Need for Study

As studies have shown, students are not being provided with adequate transition curriculum due to time constraints (Baer et al., 2003; Benz et al., 2000; Carter et al., 2008; Lindstrom et al., 2011; Test & Fowler, 2018). As a result, students with disabilities continue to graduate without the skills necessary to navigate employment and post-secondary schooling.

This results in students often dropping out and struggling to obtain or keep a job and ultimately poor post-secondary and employment outcomes their whole lives (Benz et al., 2000; Carter et al., 2009; Izzo et al., 2010; Kreider et al., 2015; Lindstrom et al., 2011; Luecking & Luecking, 2015; Morningstar, 1997; 2014; Piers & Duquette, 2016; Rabren et al., Test et al., 2009; Trainor et al., 2016). Students are educated in their least restrictive environment resulting in students being included in the general education classroom for the majority of their classes and lack room in their schedules for a daily transition class. Special education teachers, especially those in rural districts, are teaching and co-teaching in content areas while also providing students with supports to be successfully in the general education classroom. As a result, student schedules and teacher obligations make it difficult to find a common period for implementation. This results in transition curriculum being implemented haphazardly in fragments when times allows.

The goal of this quantitative research study is to determine if Google Classroom will assist special education teachers with the implementation process. Having a curriculum built and that will be accessible to all high school students with disabilities, will allow teachers to assign students lessons based on their individualized needs, interests, goals, and abilities. While students are working on modules, teachers can still continue to meet with individual students or groups of students to provide guidance and feedback. If schools would be closed again due to COVID-19 or for any other reason, school districts would have a platform to utilize to ensure students still receive mandated transition services. It will also determine if the utilization of Google Classroom has an effect on the post-secondary readiness, career readiness, and self-determination skills of students with disabilities. It is imperative that students with disabilities are provided with a quality transition curriculum to ensure they acquire post-secondary readiness, career readiness, and self-determination skills to be successful after high school.

Although several studies have been conducted surrounding effective transition services for students with disabilities, no studies have been conducted to determine if utilizing Google Classroom will improve student retention of skills. Chapter 3 will discuss in detail the methodology that will be utilized to determine if using Google Classroom to implement transition curriculum for students with disabilities improves students' career readiness, post-secondary readiness, and self-determination skills. The chapter will also discuss the rating scales being implemented and data analysis being used.

Chapter 3

Methodology

In 2019, only 30.9% of individuals with disabilities between the ages of 16-64 were employed compared to 74.6% of individuals without disabilities in the same age range (U.S. Department of Labor, 2020). Failure to successfully complete post-secondary schooling or training or successfully obtain employment can be attributed to inadequate transition curriculum implementation at the high school level (Baer et al., 2003; Benz et al., 2000; Carter et al., 2008; Lindstrom et al., 2011; Test & Fowler, 2018). Research has shown that student acquisition of post-secondary readiness, career readiness, and self-determination skills is positively correlated to student success in post-secondary schooling and training and obtaining employment (Fullarton & Duquette, 2015; Izzo et al., 2010; Lombardi et al., 2020; Morningstar, 1997; Rodriguez et al., 2017; Test et al., 2009; Test & Fowler, 2018). Although, the law requires school districts to implement and provide a transition curriculum for all students with disabilities, studies have shown there is a gap in what researchers emphasize as essential components of a transition curriculum and what school districts are implementing (Benz et al., 2000; Fullarton & Duquette, 2015; Herbert et al., 2010; Lombardi et al., 2020; Lindstrom et al., 2011; Lombardi et al., 2020; Morningstar, 1997; Trainor et al., 2016). The gap is the product of continual technological advancements and a lack of time for curriculum implementation (Baer et al., 2003; Benz et al., 2000; Carter et al., 2008; Lindstrom et al., 2011; Test & Fowler, 2018). However, research has shown the utilization of technology can bridge the technological and time gaps and improve student acquisition of secondary readiness, career readiness, and self-determination skills to improve student post-high school outcomes (Lee et al., 2011; Lombardi et al., 2019, 2020; Wehmeyer et al., 2019).

This chapter will discuss the population and sampling that was utilized for this study. The plan of implementation is explained and includes a breakdown of lessons and activities that comprised each module of the curriculum. The chapter also describes in detail the two rating scales that were used and who completed them. The data analysis process is explained as well as how site permission was obtained, how the results were presented and to whom, and the limitations of the study.

The purpose of this quantitative study was to determine the effectiveness of using Google Classroom to implement a transition curriculum on the post-secondary readiness, career readiness, and self-determination skills of students with high incidence disabilities. A transition curriculum was developed incorporating researcher emphasized essential components of a transition curriculum including: age appropriate assessments, individualized and student-centered planning and goal setting, career exploration, post-secondary training exploration, employment preparations, and self-determination (Benz et al., 2000; Fullarton & Duquette, 2015; Herbert et al., 2010; Lombardi et al., 2020; Lindstrom et al., 2011; Lombardi et al., 2020; Morningstar, 1997; Trainor et al., 2016). The curriculum is student centered and emphasizes family involvement.

The use of Google Classroom allows school districts to implement a transition curriculum in a blended learning format. Blended learning expands the ways teachers are able to present and provide students with transition instruction. It also creates flexibility for how students receive and respond to instruction. Blended programs allow teachers to assign students specific modules that align to their areas of interest and need while also providing time for teachers to mentor and collaborate with the students (Lee et al., 2011; Lombardi et al., 2020). The use of technology and blended programs has also been shown to improve student engagement and accessibility of

transition curriculums (Lee et al., 2011; Lombardi et al., 2019, 2020; Wehmeyer et al., 2019). Google Classroom also provides school districts with a platform to implement and provide students with transition curriculum for distance learning to ensure transition instruction continues to be provide even if school districts are faced with another school closure (Hooker, 2020; Iftakhar, 2016; Rosita et al., 2020). This can be very beneficial to smaller and rural school districts who have more limited teachers and resources (Baer et al., 2003; Test & Fowler, 2018).

Population

Research has shown that rural and small school districts struggle most to implement transition curriculums with fidelity due to time and financial constraints (Baer et al., 2003; Test & Fowler, 2018). As a result, a small, rural school district located in Western Pennsylvania was chosen for this study. According to the United States Census Bureau the population of this town was 5,272 with an average household income of $44,438 in 2019. The community was 95% White, 1% Black, .2% American Indian, .9% Asian, 1.8% two or more races, and 1.1% Hispanic. The poverty rate of the town was 19% (Census Quick Facts, 2019). The school district already has a license for Google Classroom and all students in the district were issued Google email accounts during enrollment. The study took place within the high school setting. The high school houses student in grades seven through twelve. However, only students in grades nine through twelve were targeted for the sampling. Grades 9-12 were chosen because they are the grade levels when students with disabilities receive transition instruction within the school district. Additionally, Pennsylvania law does not mandate students with disabilities have a transition plan until age 14 which is traditionally when a student enters the ninth grade. A transition plan outlines an individual student's goals related to post-secondary training, employment, and independent living. The plan also includes what activities the student will be encouraged to

complete in order to help them achieve their goal such as completing job shadowing (Hadley, 2006; Morningstar, 1997; Piers & Duquette, 2016; Rodriguez et al, 2017; Wehmeyer et al., 2019).

The sampling consisted of students in grades nine through twelve who had been identified as having a high incidence disability. These high incidence disabilities include students with Specific Learning Disabilities, Autism, Other Health Impairments, Emotional Disturbance, and Intellectual Disabilities. All student participants had an active IEP and received itinerant learning support or emotional support services. Itinerant support indicates that all students are included in and educated in the general education classroom at least 80% of their school day with their non-disabled peers while also receiving support from a special education teacher to assist them with the learning and emotional needs. There are currently 51 students within the school district that meet the study requirements. The age of the student population ranges from fourteen to nineteen with the majority of the students being age 16. The majority of the student population is white. See Table 1 for details.

Table 1

Descriptive Statistics of Population

	N	*%*
Gender		
Female	19	37
Male	32	63
Grade		
9th	13	25
10th	10	20
11th	18	35
12th	10	20
Disability		
Specific Learning	31	60
Other Health Impairment	12	24
Emotionally Disturbed	2	4
Autism	3	6
Intellectual Disability	3	6
Race		
Black	2	3
White	49	97

Given the age of students, the parents/guardians and participants were contacted through email to provide information on the study and to obtain parental consent for student participation. Parent/guardian participation was included and promoted through the use of

parent/guardian rating scales. Upon receipt of parental consent for student participation, the researcher met with the students to obtain their assent to participate in the study.

Sampling

Parental consent and student assent was received from 10 participants. However, only 9 of the participants completed the study. One student withdrew from the study at parental request. The age range of the sample was 15-18. All five high incidence disabilities and all four grade levels were represented by the sampling. The sampling was comprised of both female and male students. See Table 2 for more details.

Table 2

Descriptive Statistics of Sampling

	N	*%*
Gender		
Female	2	22
Male	7	78
Grade		
9th	3	33
10th	3	33
11th	2	22
12th	1	11
Disability		
Specific Learning	4	44
Other Health Impairment	2	22
Emotionally Disturbed	1	11
Autism	1	11
Intellectual Disability	1	11
Race		
Black	1	11
White	8	89

Plan for implementation

The implementation plan is a three step process focusing on a pretest/posttest format. However, before implementation began, permission was obtained from the superintendent to use

the site (Appendix A). Additionally, parental consent (Appendix B), student assent (Appendix C), and teacher consent to participate was also obtained.

The initial step of the implementation process is to gather pretest data on all student participants. The Transition Planning Inventory-Second Edition was used to measure student post-secondary and career readiness skills and the AIR Self-Determination Scale to measure student self-determination skills before implementation of a transition curriculum using Google Classroom (see the Rating Scales section below for a detailed description of each tool). The scales were completed by a regular education teacher, special education teacher, and a parent/guardian. Consent was obtained from both the parent/guardian and teachers to utilize the data for the study. The results were averaged to determine the mean. Upon completion of the surveys, the students were ready for step two of implementation.

Step two of the implementation process was to implement the transition curriculum using Google Classroom. The transition curriculum contains five modules that include a variety of materials and videos focusing on individualized and student-centered planning and goal setting, career exploration, post-secondary training exploration, employment preparations, and self-determination.

Module One

Module one of the transition curriculum focused on self-determination. Students learned about their rights as a student with an IEP and about section 504. They learned about the purpose of an IEP, as well as how to become an active participant in their IEP meetings. The teacher and students conferenced one-on-one to discuss personal disabilities, strengths, weaknesses, accommodations, and modifications. Additionally, students participated in instruction and watched videos that focus on asking for accommodations and modifications in

the work place and school environment and about how to actively participant in their IEP meetings. They also listened to a recorded presentation from a local community college about disability services at post-secondary placements and how to access them. Students were provided with opportunities to role play making such requests and being active participants in their IEP meetings. Upon completion of the module, students were encouraged and guided to make requests for accommodations within their general education classrooms. They were also encouraged and guided to attend and be active participants in their IEP meetings.

Module Two

Module two focused on goal setting. Students learned about short term and long term goals. Instruction was provided on how to monitor personal progress and adjust goals accordingly. Students created a goal board electronically that was updated as they completed more modules. The goal board focused on their personal goals related to post-secondary training, employment, and independent living. The students shared their goal boards with their teacher and family. They were required to write a journal entry after discussing their board with a family member that provided information on who they talked to and reflected their family member's reaction and how they plan to achieve their goals.

Module Three

Module three focused on career exploration. Undecided students completed career interest surveys to gain knowledge about careers that relate to their individual interests. Students then read articles and watched videos relating to their careers of interest. Students compared and contrasted their top two career choices by conducting research that focuses on the training involved, skill sets required, average salary, career advancement opportunities, and job placement. Students chose the career they were most interested in and created a Google Slide

Presentation that will be shared with their family and teacher for feedback. Students were required to complete a journal entry that focused on their family's feedback and reflected on their research results. The module consisted of virtual job shadowing and virtual interviews with someone in the field of study. These experiences were done virtually due to COVID-19 restrictions. Upon completion of the job shadowing and interview experiences, students completed reflections that focused on what they learned and what questions they still had.

Module Four

Module four focused on Post-Secondary Exploration. Students began by learning about all of their post-secondary training options including: trade schools, technical schools, community colleges, universities, apprenticeship programs, and the United States military. Students watched videos and read articles about the different training options in addition to watching a teacher created Google Slide presentation with voiceover. Students interested in the military learned about ASVAB requirements, took practice tests, and met with recruiters virtually. Students were also provided with opportunities to participate in virtual tours of local community colleges, trade schools, technical schools, and apprenticeship programs. The tours were virtual due to COVID-19 restrictions. After learning about their post-secondary options, students began researching places that have the major of their interest. Students completed research forms that focused on location, availability of disability services, availability of dorm rooms or if it is within driving distance, class size, cost of tuition, placement test requirements, school sports, and school sponsored activities. This activity helped the students learn how to navigate the school websites. Students shared these research results with a family member and teacher. They were required to write a reflection that focused on the reaction of their family members and which program or school they felt would be the best fit.

Module Five

Module five focused on employment readiness. During this module, students created a resume and cover letter using a Google Doc template. They learned how to dress for interviews and were provided with opportunities to participate in mock job interviews. How to find job openings and apply for jobs was another topic of study. Students learned how to search for jobs online and in newspapers as well as how to fill out job applications both paper and electronic. They were provided opportunities to complete practice paper and electronic applications. Students also received instruction on study skills and habits and time management. Students watched videos and review Google Slide presentations focused on each skill set of the module.

The learning support teacher assigned modules for students to complete based on student goals, progress, grade level, and needs. The teacher utilized the data they gathered from age appropriate assessments to determine student levels and skill deficits in relation to post-secondary readiness, career readiness, and self-determination. The implementation was a blended learning process. This means that the assignments were posted onto Google Classroom but the teachers also provided students with in-person and live virtual lessons. Teachers also continued to meet and collaborate with the student in person or through virtual meetings. This allowed for the teacher to continue to collaborate and mentor students throughout the learning process. All students were assigned at least one period of academic support or resource room as part of their IEP, either in person or virtually, which was utilized for student and teacher collaboration and mentoring. The curriculum was implemented for one semester of school or an 18 week period of time. Upon completion of the semester, student progress was assessed.

The final stage of the implementation process was to gather posttest data on all students using the same initial rating scales: the Transition Planning Inventory-Second Edition and AIR

Self-Determination Scale. The same people who completed the initial rating scale were solicited to complete the post rating scales. The data was averaged to determine the mean and compared to the mean obtained from the pretest data. The difference between the two means was then analyzed using a Wilcoxon signed-rank test.

The following research questions were used to navigate this quantitative study:

1. How does the use of Google Classroom to provide transition curriculum affect the self-determination skills of students with high incidence disabilities?
2. How does the use of Google Classroom to provide transition curriculum affect the post-secondary and career readiness skills of students with high incidence disabilities?

Rating Scales

A systematic review of literature was conducted to ensure best practice was utilized when selecting the appropriate data collection and analysis system. The American Institutes for Research (AIR) Self-Determination rating scale has been utilized by researchers to determine the effects of a computer based intervention in previous quantitative studies that utilize a pretest/posttest design (Lee et al., 2011; Wehmeyer et al., 2011). Researchers have also previously utilized the Transition Planning Inventory to assess the effectiveness of a transition curriculum on a student's post-secondary and career readiness skills (Carter et al., 2009). Both the AIR Self-Determination and Transition Planning Inventory-Second Edition are rating scales that were utilized for this study.

Transition Planning Inventory-Second Edition

The Transition Planning Inventory-Second Edition (TPI-2) is a comprehensive assessment tool that is designed to identify a student's readiness to transition into a post-

secondary schooling or employment setting. This criterion-referenced instrument can be utilized to gather transition related information about student's knowledge, skills, and behaviors in eleven critical functioning domains identified in IDEA 2004. (Carter et al., 2009; Patton & Clark, 2018; Rehfeldt et al., 2012). The assessment contains 57 items linked to the eleven domains: career choice and planning, employment knowledge and skills, further education/training, functional communication, self-determination, independent living, personal money management, community involvement and usage, leisure activities, health, and interpersonal relationships (Patton & Clark, 2008). Every item the assessment contains required raters to assess the student's current level of competence using a six-point Liker-type scale from zero, which signifies strongly disagree, to five which signifies strongly agree (Carter et al., 2009; Patton & Clark, 2018; Rehfeldt et al., 2012). Raters also had the options of choosing "not appropriate" if they do not believe the item is an appropriate planning area for the student or "don't know" if the rater felt they do not have a sufficient knowledge base to assess a student's level of competence in that area (Carter et al., 2009; Patton & Clark, 2018). Multiple people can rate each student.

The TPI-2 consists of three rating forms: home, school, and student. All three versions of the scale address the same planning areas and domains (Carter et al., 2009; Patton & Clark, 2018; Rehfeldt et al., 2012). However, the wording is altered slightly to ensure the respondent is always reflecting on the strengths and needs of the student. Additionally the student and home forms have a lower readability (Patton & Clark, 2008). All three forms of the assessment also include sections requesting student demographic information and anticipated settings for Post-secondary outcomes in the areas of employment/further education or training and living arrangements (Carter et al., 2009; Patton & Clark, 2018; Rehfeldt et al., 2012). However, information on anticipated settings for Post-secondary outcomes was not collected for this study.

For this study, only the home and school forms were utilized. Research has shown that students self-rating scores are significantly higher than educator and home rating scores (Carter et al., 2009; Rehfeldt et al., 2012). This score discrepancy can affect the reliability of the results (Carter et al., 2009; Rehfeldt et al., 2012).

Research has found the TPI-2 to have acceptable validity (Carter et al., 2009; Patton & Clark, 2018; Rehfeldt et al., 2012). The TPI-2 items were drawn from an extensive examination of legislative transition guidelines articulated in IDEA 2004 as well as a review of career development and transition literature (Carter et al., 2009). A selected panel of experts and practitioners evaluated drafts of the assessment and provided suggested revisions to structure, wording, and item inclusion. The panel also assessed the social validity of the overall assessment through a pilot test that involved 227 caregivers, 329 school staff members, and 288 students across 10 different states (Carter et al., 2009). Carter et al. (2009) also conducted exploratory factor analyses which showed a uni-dimensional structure for each of the domains addressed in the inventory. The variance averaged 74.5% and suggested the items for each domain shared a significant amount of common variability (Carter et al., 2009). A content validity assessment was also conducted during field testing that assessed the degree to which the content was age-appropriate and consistent with current knowledge in the area of transition planning through surveys and feedback from field-test participants and the panel of experts (Patton & Clark, 2018). The majority, 87% to 94%, of the respondents indicated that the instrument was consistent with the IEP planning process under IDEA 2004 and that it covered basic considerations for transition planning (Patton & Clark, 2018). This assessment also possesses acceptable reliability.

Reliability was reported in the form of internal consistency, test-retest reliability, and temporal stability (Rehfeldt et al., 2012). Reliability tests indicated strong internal consistency with the average alpha equaling .85 and adequate test-retest reliability of .86 after two weeks (Carter et al., 2009; Patton & Clark, 2018; Rehfeldt et al., 2012). Time sampling reliability coefficients averaged across all three TPI-2 rating forms and for all eleven planning domains ranged from .78 to .92 (Patton & Clark, 2018; Rehfeldt et al., 2012). These scores are indicative of a good reliability for all planning areas for all raters. They also indicate that the assessment can be utilized in a pretest/posttest format and the researchers can still obtain reliable results.

TPI-2 was utilized in a pre/posttest format to determine if a student with a high incidence disability's post-secondary and career readiness skills are effected by the implementation of a transition curriculum using Google Classroom. TPI-2 is aligned with federal legislation and consistent with current transition planning knowledge. As a result, it can also be used to provide data driven information to assist with a student's individualized transition planning development but it cannot identify skill deficits (Patton & Clark, 2018; Rehfeldt et al., 2012). Special education teachers utilized the results of the TPI-2 to drive individual module assignments for student participants. Although, self-determination is one of the eleven domains of the TPI-2 only nine items are devoted to the area. Given the important correlation between acquisition of self-determination skills and post-secondary success, a separate rating scale devoted to assessing self-determination was also utilized.

The American Institutes for Research Self-Determination Scale

The American Institutes for Research Self-Determination Scale (AIR) measures a student's capacity for and opportunity to act in a self-determined manner (Cho et al., 2017; Lee et al., 2011; Shogren et al., 2008; Wehmeyer et al., 2011). The scale is designed to not only

assess a student's current level of self-determination but also identify areas of strength and need. The information gathered from the scale can be used to identify individual IEP goals, guide student transition instruction, and develop strategies to build a student's self-determination capacities and provide students with more opportunities to act in a self-determined manner (Lee et al., 2011; Wehmeyer et al., 2011). Unlike most self-determination scales that contain only a student rating scale, AIR contains three different rating forms (Cho et al., 2017; Lee et al., 2011; Shogren et al., 2008; Wehmeyer et al., 2011).

AIR contains rating forms for educators, caregivers, and students to complete. The forms are broken into two sub-categories: capacity and opportunity. Each form contains a different number of Likert-style items ranging from one, which signifies never, to five, which signifies always (Cho et al., 2017; Lee et al., 2011; Shogren et al., 2008; Wehmeyer et al., 2011). Capacity and opportunity subscale scores can be calculated in addition to a self-determination score by adding the two subscales together (Cho et al., 2017; Shogren et al., 2008).

For this study, again only the home and school forms were utilized since research has shown that students self-rating scores are significantly higher than educator and home rating scores. Additionally, only the capacity subscales of the AIR assessment were utilized. The opportunity home scale requires parents to provide information based on opportunities their child is provided at school to utilize self-determination skills. Researchers found that parents frequently indicated they did not possess adequate knowledge to answer these questions accurately and often left them blank (Cho et al., 2017; Shogren et al., 2008). Likewise, the opportunity school scale requires teachers to provide information based on opportunities the student is provided at home to utilize self-determination skills. Teachers also reported lacking adequate knowledge to answer the questions adequately (Cho et al., 2017; Shogren et al., 2008).

Thus, inaccurate information could be obtained if teachers and parents were to complete the sections despite inadequate knowledge base affecting the reliability of results (Cho et al., 2017; Shogren et al., 2008).

The AIR was developed and normed with a group of 450 teachers and their students with and without disabilities in California and New York. All forms for the scale were found to demonstrate adequate reliability and validity in the measurement of self-determination for students with and without disabilities (Cho et al., 2017; Shogren et al., 2008; Wehmeyer et al., 2011).

The AIR can be used to assess a student's self-determination capacity. Thus it can be utilized in a pre/posttest format to determine if a student with a high incidence disability's self-determination skills are effected by the implementation of a transition curriculum using Google Classroom. It is designed to identify a student's strengths and needs related to self-determination. As a result, it can also be used to provide data driven information to assist with a student's individualized goal setting. Special education teachers utilized the results of the AIR to drive individual module assignments for student participants.

Three sources of data were gathered for each research question. This triangulation of the data ensures the validity of the study (Creswell & Creswell, 2018). The researcher utilized the Transition Planning Inventory-Second Edition and AIR Self-Determination Scale rating scores for each participant from a regular education teacher, special education teacher, and a parent/guardian. The use of three different data sources for each question fortified the results and averted the ineffective analyses drawn from single-source studies (Creswell & Creswell, 2018). Once gathered the data was averaged to determine the means and the difference was analyzed utilizing a Wilcoxon signed-rank test.

Data Analysis

Both the Transition Planning Inventory and AIR Self-Determination rating scales contain Likert-type scales with ordinal responses. Long standing misinterpretation of Likert-type data has resulted from researchers viewing the data as interval rather than ordinal even though the distance between ratings, such as strongly agree and agree, is not equal (Bishop & Herron, 2015; Laered Statistics, 2015). The Wilcoxon signed-rank test is the nonparametric test equivalent to the parametric t-test. Unlike the t-test, the Wilcoxon signed-rank test does not assume normality in the data (Laered Statistics, 2015). Thus non-parametric statistical measures and the Wilcoxon's Signed Rank Test are a more appropriate analysis method given the Likert-type scale and ordinal data that was obtained from this research study.

The dependent variable, post-secondary and career readiness, was measured through three TPI-2 rating scales: parent, special education teacher, and regular education teacher. The scores were averaged to determine the mean. Upon completion of the 16-week implementation of the transition curriculum utilizing Google Classroom, the three TPI rating scales were again completed by the original raters. The scores were again averaged to determine the mean. The two mean scores were compared to determine whether the mean score for the posttest or second rating was higher or lower. The Wilcoxon signed-rank test was run using Excel to determine whether any difference between the means is statistically significant.

The dependent variable self-determination was measured through three AIR rating scales (parent, special education teacher, and regular education teacher. The scores were averaged to determine the mean. Upon completion of the 18 week implementation of the transition curriculum utilizing Google Classroom, the three AIR rating scales were again completed by the original raters. The scores were again averaged to determine the mean. The two mean scores

were compared to determine whether the mean score for the posttest was higher or lower than the pretest mean score. The Wilcoxon signed-rank test was run using Excel to determine whether any difference between the means is statistically significant.

Site Permission

Permission for the study was granted by school district superintendent. Given the school district does not possess their own IRB, approval was obtained by the IRB at Slippery Rock University. Participants of the study range in age of 14-19. As a result, informed assent was obtained from all student participants and informed consent from the parents of student participants under the age of 18.

Presentation of Results

The results of this study were utilized to further examine the initiative of improving transition curriculum implementation at the high school. The results were provided to all interested stakeholders including the superintendent, director of special education, building principals, school board members, and transition coordinators.

Limitations of the study

This study is limited by sample size. The sample of this study was obtained from one rural, Pennsylvania high school. Thus, the results may not be generalizable to other high schools within Pennsylvania, other states, or other countries. Although, participation was solicited from all students in grades 9-12 who fit the criteria of a high incidence learning disability, the sample of students who agree to participate may not be representative of the student population of students with high incident disabilities.

Another limitation to this study is it was conducted during the COVID-19 pandemic. As a result, school closures and limited in-person instruction, as a result of migration efforts, resulted

in students participating in online learning in the home setting. Online learning may not be conducive to student learning and progress. Students and schools staff may also experience connectivity issues resulting in limited guidance and interactions between staff and participants. As a result, student progress may be effected by the use of online learning in the home setting.

Summary

This study used quantitative methods to study the effects of using Google Classroom to implement a transition curriculum on the post-secondary readiness, career readiness, and self-determination skills of students with high incidence disabilities. Ethical considerations were addressed before implementation of the study through obtaining permission from the superintendent, student participants, and parents/guardians of any participants under the age of 18. Approval for the study and all data collection tools were granted by the Slippery Rock IRB. Two Likert-style rating scales, the Transition Planning Inventory-Second Edition and AIR Self-Determination Rating Scale, were utilized to gather pretest and posttest data. Three raters completed each rating scale for each student participant and the scores were averaged to determine the mean. This triangulation of the data ensures the validity of the study. The Wilcoxon signed-rank test was run using Excel to determine whether any difference between the means is statistically significant. The specific results of the study will be presented in Chapter Four.

Chapter 4

Results

I used two rating scales, the Transition Planning Inventory Second Edition (TPI 2) and the AIR Self-Determination rating scale to collect pre-and post-test data. These rating scales were completed by a parent or guardian, general education teacher, and special education teacher and then I averaged the scores. Both the Transition Planning Inventory and AIR Self-Determination rating scales contain Likert-type scales with ordinal responses. Long standing misinterpretation of Likert-type data has resulted from researchers viewing the data as interval rather than ordinal even though the distance between ratings, such as strongly agree and agree, is not equal (Bishop & Herron, 2015; Laered Statistics, 2015). Thus, non-parametric statistical measures and the Wilcoxon's Signed Rank Test were utilized to determine whether any difference between the Likert-type scale and ordinal data means obtained from this research study were statistically significant.

Chapter 4 contains multiple tables outlining the pretest and posttest data obtained for each participant. The data is organized by the rating scale and then broken down into each rating scale category in order to better evaluate the effectiveness of utilizing Google Classroom. In addition to the data, an explanation of the findings and calculations will also be included within this chapter.

I received consent and assent from ten student participants. However, one student did not complete the study and was removed at parental request. I received consent to participate and completed pretest and posttest rating scales from three general education teachers and two special education teachers. Upon receipt of consent and assent, I sent pretest rating scales to a

general education teacher, special education teacher, and parent to be completed for each participant.

After receiving the pretest rating scales, the learning support teacher assigned modules for students to complete based on student goals, progress, grade level, and needs. The implementation was a blended learning process with assignments being posted onto Google Classroom and the teachers still providing students with in-person and live virtual lessons. The Teacher also continued to meet and collaborate with the student in person or through virtual meetings. It should be noted that during the first five weeks of implementation the school was still utilizing a blended virtual learning format and students would access Google Classroom from their homes two days a week. Upon completion of the semester, student progress was assessed by sending out the rating scales to the same teachers and parents who previously completed the rating scales for each student. The results of the rating scales can be found in Appendix D. To protect the identity of the participants, the name of the students will be replaced by student 1, student 2, etc.

Results

The Wilcoxon's Signed Rank Test was utilized to determine whether any difference between the pretest and posttest means was statistically significant. If when subtracting the pretest and posttest scores a zero is obtained, the individual's score will be eliminated from the data analysis and the sample size will be decreased. Therefore if one participate has no difference or zero difference between their scores and there are nine participants total, the sample size will be decreased to eight. With the Wilcoxon's Signed Rank Test, the participants' difference scores are ranked or numbered in order. If two or more participants have the same difference score, each of the tied scores was assigned the average of the tied ranks. For example if two participants

scored a 3 which would be ranked fifth, each participant would receive the rank score 5.5. The critical values of *T* for .05 level of significance for a two-tailed test was utilized for the calculations (Gravetter & Wallnau, 2017). A Wilcoxon Signed Rank Test was completed for each category of both rating scales. Both the Wilcoxon *T*-test and interpretation using the Wilcoxon *T*-table were utilized to determine if each difference was statistically significant.

Self-Determination Skills

The AIR assesses individuals' self-determination skills using two categories: knowledge and ability. The null and alternative hypotheses for the first research question: How does the use of Google Classroom to provide transition curriculum affect the self-determination skills of students with high incidence disabilities? are listed below.

H_0: There is no difference between the pretest and posttest scores. Therefore, the use of Google Classroom to provide transition curriculum has no effect on the self-determination skills of students with high incidence disabilities.

H_1: There is a difference between the pretest and posttest scores. Therefore, the use of Google Classroom to provide transition curriculum has a positive or negative effect on the self-determination skills of students with high incidence disabilities.

Knowledge. Seven out of the nine students had a positive difference between their pretest and posttest average scores (see table 3). When calculating the Wilcoxon Signed Rank the positive sum was 42 and the negative sum was 3 resulting in a *T* value of 3. Given the sample size of 9 the *T* critical value was 5 on the Wilcoxon *T* Table. When the sample data produces a T that is less than or equal to the table value, the null hypothesis is rejected. Given that the critical value is 5 and the *T* value is 3, the null hypothesis is rejected and the conclusion that there is a significant difference between the pretest and posttest can be drawn. A z-score of -2.35 was

obtained when the normal approximation for the Wilcoxon *T* was performed. With the critical values of ± 1.96 the obtained z-score is outside of the boundary and significant at the 0.05 level. Thus, the conclusion can be drawn that the use of Google Classroom to provide transition curriculum has a positive effect on the Self-Determination knowledge skills of students with high incidence disabilities.

Table 3

AIR Self-Determination Knowledge Results

Student	Pretest Average	Posttest Average	Difference	abs difference	rank abs difference	signed rank
1	19.7	19.0	-0.7	0.7	1	-1
2	20.3	23.7	3.3	3.3	5.5	5.5
3	23.0	25.0	2.0	2.0	3	3
4	16.0	18.7	2.7	2.7	4	4
5	15	14.0	-1.0	1.0	2	-2
6	17.0	24.0	7.0	7.0	9	9
7	17.7	21.3	3.7	3.7	7	7
8	22.0	25.3	3.3	3.3	5.5	5.5
9	21.0	25.0	4.0	4.0	8	8

Ability. Six out of the nine students had a positive difference between their pretest and posttest average scores. One student had no difference between their scores (see table 4). When calculating the Wilcoxon Signed Rank the positive sum was 33 and the negative sum was 3 resulting in a *T* value of 3. The scores of the student with no difference were eliminated resulting in a sample size of 8. Given the sample size of 8 the *T* critical value was 3 on the Wilcoxon *T* Table. When the sample data produces a T that is less than or equal to the table value, the null hypothesis is rejected. Given that the critical value is 3 and the *T* value is 3, the null hypothesis is rejected and the conclusion that there is a significant difference between the pretest and posttest can be drawn. A z-score of -2.26 was obtained when the normal approximation for the Wilcoxon *T* was performed. With the critical values of ± 1.96 the obtained z-score is outside of the boundary and significant at the 0.05 level. Thus, the conclusion can be drawn that the use of

Google Classroom to provide transition curriculum has a positive effect on the Self-Determination ability skills of students with high incidence disabilities.

Table 4

AIR Self-Determination Ability Results

Student	Pretest Average	Posttest Average	Difference	abs difference	rank abs difference	signed rank
1	22	21	-1	1	2	-2
2	20.3	24.3	4	4	7	7
3	24.7	28.7	4	4	7	7
4	17.3	17.3	0	0		
5	17.7	18.3	0.7	0.7	1	-1
6	20.7	24	3.3	3.3	5	5
7	21.3	22.7	1.3	1.3	3	3
8	23	26	3	3	4	4
9	17.7	21.7	4	4	7	7

AIR Self-Determination Rating Scale total. Seven out of the nine students had a positive difference between their pretest and posttest average scores (See table 5). When calculating the Wilcoxon Signed Rank the positive sum was 42 and the negative sum was 3 resulting in a *T* value of 3. Given the sample size of 9 the *T* critical value was 5 on the Wilcoxon *T* Table. When the sample data produces a T that is less than or equal to the table value, the null hypothesis is rejected. Given that the critical value is 5 and the *T* value is 3, the null hypothesis is rejected and the conclusion that there is a significant difference between the pretest and posttest can be drawn. A z-score of -2.31 was obtained when the normal approximation for the Wilcoxon *T* was performed. With the critical values of ± 1.96 the obtained z-score is outside of the boundary and significant at the 0.05 level. Thus, the conclusion can be drawn that the use of Google Classroom to provide transition curriculum has a positive effect on the Self-Determination skills of students with high incidence disabilities.

Table 5

AIR Self-Determination Rating Scale Total Results

Student	Pretest Average	Posttest Average	Difference	abs difference	rank abs difference	signed rank
1	41.7	40.0	-1.7	1.7	2	-2
2	40.7	48.0	7.3	3.3	4	4
3	47.7	53.7	6.0	6.0	6	6
4	33.3	36.0	2.7	2.7	3	3
5	32.7	32.3	-0.3	0.3	1	-1
6	37.7	48.0	10.3	10.3	9	9
7	39.0	44.0	5.0	5.0	5	5
8	45.0	51.3	6.3	6.3	7	7
9	38.7	46.7	8.0	8.0	8	8

Career and Post-Secondary Readiness Skills

The Transition Planning Inventory Second Edition assesses individuals' career and post-secondary readiness skills using 11 categories: Career Choice Planning, Employment Knowledge and Skills, Further Education/Training, Functional Communication, Self-Determination, Independent Living, Personal Money Management, Community Involvement and Usage, Leisure Activities, Health, and Interpersonal Relationships. The null and alternative hypotheses for the second research question: How does the use of Google Classroom to provide transition curriculum affect the post-secondary and career readiness skills of students with high incidence disabilities? are listed below.

H_0: There is no difference between the pretest and posttest scores. Therefore, the use of Google Classroom to provide transition curriculum has no effect on the post-secondary and career readiness skills of students with high incidence disabilities.

H_1: There is a difference between the pretest and posttest scores. Therefore, the use of Google Classroom to provide transition curriculum has a positive or negative effect on the post-secondary and career readiness skills of students with high incidence disabilities.

Career Choice and Planning. Eight out of the nine students had a positive difference between their pretest and posttest average scores (See table 6). When calculating the Wilcoxon Signed Rank the positive sum was 44 and the negative sum was 1 resulting in a test statistic (*T value)* of 1. Given the sample size of 9 the *T* critical value was 5 on the Wilcoxon *T* Table. When the sample data produces a T that is less than or equal to the table value, the null hypothesis is rejected. Given that the critical value is 5 and the *T* value is 1, the null hypothesis is rejected and the conclusion that there is a significant difference between the pretest and posttest can be drawn. A z-score of -2.55 was obtained when the normal approximation for the Wilcoxon *T* was performed. With the critical values of ± 1.96 the obtained z-score is outside of the boundary and significant at the 0.05 level. Thus, the conclusion can be drawn that the use of Google Classroom to provide transition curriculum has a positive effect on the Career Choice and Planning skills of students with high incidence disabilities.

Table 6

TPI-2 Career Choice and Planning Results

Career Choice Planning						
Student	Pretest Average	Posttest Average	Difference	abs difference	rank abs difference	signed rank
1	15.7	15.3	-0.3	0.3	1	-1
2	6.7	13.0	6.3	6.3	9	9
3	11.7	16.0	4.3	4.3	6	6
4	10	15.7	5.7	5.7	8	8
5	4.3	7.3	3.0	3.0	3	3
6	14.0	17.7	3.7	3.7	4	4
7	9.3	14.7	5.3	5.3	7	7
8	15.3	18.0	2.7	2.7	2	2

Employment Knowledge and Skills. Nine out of the nine students had a positive difference between their pretest and posttest average scores (See table 7).When calculating the Wilcoxon Signed Rank the positive sum was 48 and the negative sum was 0 resulting in a *T* value of 0. Given the sample size of 9 the *T* critical value was 5 on the Wilcoxon *T* Table. When

the sample data produces a T that is less than or equal to the table value, the null hypothesis is rejected. Given that the critical value is 5 and the *T* value is 0, the null hypothesis is rejected and a conclusion can be drawn that there is a significant difference between the pretest and posttest. A z-score of -2.71 was obtained when the normal approximation for the Wilcoxon *T* was performed. With the critical values of ± 1.96 the obtained z-score is outside of the boundary and significant at the 0.05 level. Thus, the conclusion can be drawn that the use of Google Classroom to provide transition curriculum has a positive effect on the Employment Knowledge and Skills of students with high incidence disabilities.

Table 7

TPI-2 Employment Knowledge and Skills Results

Employment Knowledge and Skills						
Student	Pretest Average	Posttest Average	Difference	abs difference	rank abs difference	signed rank
1	12	15.33	3.33	3.3	4	7
2	7.7	16.3	8.7	8.7	9	9
3	17.7	25	7.3	7.3	8	8
4	8	11.3	3.3	3.3	4	4
5	5.7	7.3	1.7	1.7	2	2
6	11.7	18.7	7	7	6.5	6.5
7	11	18	7	7	6.5	6.5
8	16.3	19.7	3.3	3.3	4	4

Further Education and Training. Nine out of the nine students had a positive difference between their pretest and posttest average scores (see table 8). When calculating the Wilcoxon Signed Rank the positive sum was 46 and the negative sum was 0 resulting in a *T* value of 0. Given the sample size of 9 the *T* critical value was 5 on the Wilcoxon *T* Table. When the sample data produces a T that is less than or equal to the table value, the null hypothesis is rejected. Given that the critical value is 5 and the *T* value is 0, the null hypothesis is rejected and a conclusion can be drawn that there is a significant difference between the pretest and posttest.

A z-score of -3.13 was obtained when the normal approximation for the Wilcoxon *T* was performed. With the critical values of ± 1.96 the obtained z-score is outside of the boundary and significant at the 0.05 level. Thus, the conclusion can be drawn that the use of Google Classroom to provide transition curriculum has a positive effect on the Further Education and Training skills of students with high incidence disabilities.

Table 8

TPI-2 Further Education and Training

Further Education/Training						
Student	Pretest Average	Posttest Average	Difference	abs difference	rank abs difference	signed rank
1	10.7	14.7	4	4	2.5	2.5
2	4	11.7	7.7	7.7	6.5	6.5
3	10	17.7	7.7	7.7	6.5	6.5
4	5.7	7.7	2	2	1	1
5	1.7	7.7	6	6	5	5
6	5.3	14.7	9.3	9.3	9	9
7	6.3	15	8.7	8.7	8	8
8	11.7	16.3	4.7	4.7	4	4
9	9.7	13.7	4	4	3.5	3.5

Functional Communication. Eight out of the nine students had a positive difference between their pretest and posttest average scores. One student had no difference between their scores (See table 9). When calculating the Wilcoxon Signed Rank the positive sum was 36 and the negative sum was 0 resulting in a *T* value of 0. The scores of the student with no difference were eliminated resulting in a sample size of 8. Given the sample size of 8, the *T* critical value was 3 on the Wilcoxon *T* Table. When the sample data produces a T that is less than or equal to the table value, the null hypothesis is rejected. Given that the critical value is 3 and the *T* value is 0, the null hypothesis is rejected and a conclusion can be drawn that there is a significant difference between the pretest and posttest. A z-score of -2.56 was obtained when the normal approximation for the Wilcoxon *T* was performed. With the critical values of ± 1.96 the obtained

z-score is outside of the boundary and significant at the 0.05 level. Thus, the conclusion can be drawn that the use of Google Classroom to provide transition curriculum has a positive effect on the Functional Communication skills of students with high incidence disabilities.

Table 9

TPI-2 Functional Communication

Functional Communication						
Student	Pretest Average	Posttest Average	Difference	abs difference	rank abs difference	signed rank
1	14	14.7	0.7	0.7	1	1
2	16	17.3	1.3	1.3	2	2
3	16.3	19.3	3	3	7	7
4	10.3	13	2.7	2.7	5.5	5.5
5	10	14.3	4.3	4.3	8	8
6	11.7	14	2.3	2.3	4	4
7	12	14.7	2.7	2.7	5.5	5.5
8	14	14	0	0		
9	13	15	2	2	3	3

Self-Determination. Nine out of the nine students had a positive difference between their pretest and posttest average scores (See table 10). When calculating the Wilcoxon Signed Rank the positive sum was 45 and the negative sum was 0 resulting in a *T* value of 0. Given the sample size of 9 the *T* critical value was 5 on the Wilcoxon *T* Table. When the sample data produces a T that is less than or equal to the table value, the null hypothesis is rejected. Given that the critical value is 5 and the *T* value is 0, the null hypothesis is rejected and a conclusion can be drawn that there is a significant difference between the pretest and posttest. A z-score of -2.67 was obtained when the normal approximation for the Wilcoxon *T* was performed. With the critical values of ± 1.96 the obtained z-score is outside of the boundary and significant at the 0.05 level. Thus, the conclusion can be drawn that the use of Google Classroom to provide transition curriculum has a positive effect on the Self-Determination skills of students with high incidence disabilities.

Table 10

TPI-2 Self-Determination

Self Determination						
Student	Pretest Average	Posttest Average	Difference	abs difference	rank abs difference	signed rank
1	22	22.7	0.7	0.7	1	1
2	19.3	31.3	12	12	8	8
3	28	38.3	10.3	10.3	7	7
4	13.3	21.3	8	8	4	4
5	14.3	18.3	4	4	3	3
6	18.7	28.3	9.7	9.7	5	5
7	14.3	19.3	15	15	9	9
8	21.3	31.3	10	10	6	6
9	22.7	25	2.3	2.3	2	2

Independent Living. Eight out of the nine students had a positive difference between their pretest and posttest average scores. One student had no difference between their scores (See table 10).When calculating the Wilcoxon Signed Rank the positive sum was 36 and the negative sum was 0 resulting in a *T* value of 0. The scores of the student with no difference were eliminated resulting in a sample size of 8. Given the sample size of 8 the *T* critical value was 3 on the Wilcoxon *T* Table. When the sample data produces a T that is less than or equal to the table value, the null hypothesis is rejected. Given that the critical value is 5 and the *T* value is 0, the null hypothesis is rejected and a conclusion can be drawn that there is a significant difference between the pretest and posttest. A z-score of -2.57 was obtained when the normal approximation for the Wilcoxon *T* was performed. With the critical values of ± 1.96 the obtained z-score is outside of the boundary and significant at the 0.05 level. Thus, the conclusion can be drawn that the use of Google Classroom to provide transition curriculum has a positive effect on the Independent Living skills of students with high incidence disabilities.

Table 11

TPI-2 Independent Living

Student	Pretest Average	Posttest Average	Difference	abs difference	rank abs difference	signed rank
1	17.0	17.0	0.0	0.0		
2	18.0	23.3	5.3	5.3	6.5	6.5
3	23.0	28.0	5.0	5.0	5	5
4	11.3	16.7	5.3	5.3	6.5	6.5
5	12.7	14.0	1.3	1.3	1	1
6	18.0	22.0	4.0	4.0	3.5	3.5
7	19.0	21.0	2.0	2.0	2	2
8	22.7	26.7	4.0	4.0	3.5	3.5
9	16.7	22.7	6.0	6.0	8	8

Personal Money Management. Nine out of the nine students had a positive difference between their pretest and posttest average scores (See table 12). When calculating the Wilcoxon Signed Rank the positive sum was 45 and the negative sum was 0 resulting in a *T* value of 0. Given the sample size of 9 the *T* critical value was 5 on the Wilcoxon *T* Table. When the sample data produces a T that is less than or equal to the table value, the null hypothesis is rejected. Given that the critical value is 5 and the *T* value is 0, the null hypothesis is rejected and a conclusion can be drawn that there is a significant difference between the pretest and posttest. A z-score of -2.67 was obtained when the normal approximation for the Wilcoxon *T* was performed. With the critical values of ± 1.96 the obtained z-score is outside of the boundary and significant at the 0.05 level. Thus, the conclusion can be drawn that the use of Google Classroom to provide transition curriculum has a positive effect on the Personal Money Management skills of students with high incidence disabilities.

Table 12

TPI-2 Personal Money Management

Personal Money Management						
Student	Pretest Average	Posttest Average	Difference	abs difference	rank abs difference	signed rank
1	9	11	2	2	2	2
2	8	13	5	5	5	5
3	10.7	19.3	8.7	8.7	9	9
4	3.3	10.3	7	7	8	8
5	4.7	10	5.3	5.3	6	6
6	7.3	14	6.7	6.7	7	7
7	11.3	12.3	1	1	1	1
8	12.7	16.3	3.7	3.7	4	4
9	11.7	15	3.3	3.3	3	3

Community Involvement and Usage. Eight out of the nine students had a positive difference between their pretest and posttest average scores (See table 13). When calculating the Wilcoxon Signed Rank the positive sum was 44 and the negative sum was 1 resulting in a *T* value of 1. Given the sample size of 9 the *T* critical value was 5 on the Wilcoxon *T* Table. When the sample data produces a T that is less than or equal to the table value, the null hypothesis is rejected. Given that the critical value is 5 and the *T* value is 1, the null hypothesis is rejected and the conclusion that there is a significant difference between the pretest and posttest can be drawn. A z-score of -2.59 was obtained when the normal approximation for the Wilcoxon *T* was performed. With the critical values of ± 1.96 the obtained z-score is outside of the boundary and significant at the 0.05 level. Thus, the conclusion can be drawn that the use of Google Classroom to provide transition curriculum has a positive effect on the Community Involvement and Usage skills of students with high incidence disabilities.

Table 13

TPI-2 Community Involvement and Usage

Community Involvement and Usage						
Student	Pretest Average	Posttest Average	Difference	abs difference	rank abs difference	signed rank
1	19	17	-2	-2	1	-1
2	11.3	22	10.7	10.7	8	8
3	21	29.3	8.3	8.3	7	7
4	9.7	16.3	6.7	6.7	6	6
5	10.7	14	3.3	3.3	2	2
6	15.3	20.7	5.3	5.3	4.5	4.5
7	10.3	22.7	12.3	12.3	9	9
8	19.3	24.7	5.3	5.3	4.5	4.5
9	20.7	24.3	3.7	3.7	3	3

Leisure Activities. Seven out of the nine students had a positive difference between their pretest and posttest average scores. One out of the nine students had no difference between their scores (See table 14). When calculating the Wilcoxon Signed Rank the positive sum was 28 and the negative sum was 8 resulting in a *T* value of 8. The scores of the student with no difference were eliminated resulting in a sample size of 8. Given the sample size of 8 the *T* critical value was 3 on the Wilcoxon *T* Table. When the sample data produces a T that is greater than the table value, the null hypothesis is accepted. Given that the critical value is 3 and the *T* value is 8, the null hypothesis is accepted and the conclusion that there is no significant difference between the pretest and posttest can be drawn. A z-score of -1.51 was obtained when the normal approximation for the Wilcoxon *T* was performed. With the critical values of ± 1.96 the obtained z-score is inside of the boundary and not significant at the 0.05 level. Thus, the conclusion can be drawn that the use of Google Classroom to provide transition curriculum has no effect on the Leisure Activities skills of students with high incidence disabilities.

Table 14

TPI-2 Leisure Activities

Leisure Activities						
Student	Pretest Average	Posttest Average	Difference	abs difference	rank abs difference	signed rank
1	14	15	1	1	3	3
2	14.7	15.7	1	1	3	3
3	17.7	19.7	2	2	5	5
4	16.3	16.3	0	0		
5	14.3	10	-4.3	4.3	8	-8
6	15.7	16.7	1	1	3	3
7	17.7	20	2.3	2.3	6	6
8	16	19.7	3.7	3.7	7	7
9	16.3	16.7	0.3	0.3	1	1

Health. Seven out of the nine students had a positive difference between their pretest and posttest average scores (See table 15). When calculating the Wilcoxon Signed Rank the positive sum was 40.5 and the negative sum was 4.5 resulting in a *T* value of 4.5. Given the sample size of 9 the *T* critical value was 5 on the Wilcoxon *T* Table. When the sample data produces a T that is less than or equal to the table value, the null hypothesis is rejected. Given that the critical value is 5 and the *T* value is 4.5, the null hypothesis is rejected and the conclusion that there is a significant difference between the pretest and posttest can be drawn. A z-score of -2.16 was obtained when the normal approximation for the Wilcoxon *T* was performed. With the critical values of ± 1.96 the obtained z-score is outside of the boundary and significant at the 0.05 level. Thus, the conclusion can be drawn that the use of Google Classroom to provide transition curriculum has a positive effect on the Health skills of students with high incidence disabilities.

Table 15

TPI-2 Health

Health						
Student	Pretest Average	Posttest Average	Difference	abs difference	rank abs difference	signed rank
1	17	16	-1	1	1.5	-1.5
2	19.3	22.3	3	3	5	5
3	21	25	4	4	7	7
4	12	13	1	1	1.5	1.5
5	13.7	12.3	-1.3	1.3	3	-3
6	13.3	19.7	6.3	6.3	9	9
7	14.3	19.7	5.3	5.3	8	8
8	18.7	21	2.3	2.3	4	4
9	17	20	3	3.3	6	6

Interpersonal Relationships. Eight out of the nine students had a positive difference between their pretest and posttest average scores (See table 16). When calculating the Wilcoxon Signed Rank the positive sum was 40 and the negative sum was 5 resulting in a *T* value of 5. Given the sample size of 9 the *T* critical value was 5 on the Wilcoxon *T* Table. When the sample data produces a T that is less than or equal to the table value, the null hypothesis is rejected. Given that the critical value is 5 and the *T* value is 5, the null hypothesis is rejected and the conclusion that there is a significant difference between the pretest and posttest can be drawn. A z-score of -2.43 was obtained when the normal approximation for the Wilcoxon *T* was performed. With the critical values of ± 1.96 the obtained z-score is outside of the boundary and significant at the 0.05 level. Thus, the conclusion can be drawn that the use of Google Classroom to provide transition curriculum has a positive effect on the Interpersonal Relationship skills of students with high incidence disabilities.

Table 16

TPI-2 Interpersonal Relationships

Interpersonal Relationships						
Student	Pretest Average	Posttest Average	Difference	abs difference	rank abs difference	signed rank
1	24.3	21.3	-3	3	5	-5
2	29	29.7	0.7	0.7	1	1
3	28.7	33.7	5	5	8	8
4	18	19	1	1	2.5	2.5
5	16	18.3	2.3	2.3	4	4
6	24.3	28.7	4.3	4.3	6.5	6.5
7	16.3	23.3	7	7	9	9
8	29.3	30.3	1	1	2.5	2.5
9	24.7	29	4.3	4.3	6.5	6.5

Transition Planning Inventory Second Edition Total. Nine out of the nine students had a positive difference between their pretest and posttest average scores (See table 17).When calculating the Wilcoxon Signed Rank the positive sum was 46 and the negative sum was 0 resulting in a *T* value of 0. Given the sample size of 9 the *T* critical value was 5 on the Wilcoxon *T* Table. When the sample data produces a T that is less than or equal to the table value, the null hypothesis is rejected. Given that the critical value is 5 and the *T* value is 0, the null hypothesis is rejected and the conclusion that there is a significant difference between the pretest and posttest can be drawn. A z-score of -2.67 was obtained when the normal approximation for the Wilcoxon *T* was performed. With the critical values of ± 1.96 the obtained z-score is outside of the boundary and significant at the 0.05 level. Thus, the conclusion can be drawn that the use of Google Classroom to provide transition curriculum has a positive effect on the Career and Post-Secondary Readiness Skills of students with high incidence disabilities.

Table 17

TPI-2 Total Scores

Transition Planning Inventory II Total						
Student	Pretest Average	Posttest Average	Difference	abs difference	rank abs difference	signed rank
1	174.7	180	5.3	5.3	1	1
2	154	215.7	61.7	61.7	7	7
3	205.7	271.3	65.7	65.7	8	8
4	118	160.7	42.7	42.7	5	5
5	108	133.7	25.7	25.7	2	2
6	155.3	215	59.7	59.7	6	6
7	142	210.7	68.7	68.7	9	9
8	197.3	238	40.7	40.7	4	4
9	185.3	220	34.7	34.7	4	4

Findings

The data from both the AIR and TPI-2 showed that Google Classroom had a statistically significant effect on students with high incidence disabilities acquisition of career and post-secondary readiness skills and on the self-determination skills in all areas except leisure activities. A further break down on the findings and skill sets assessed by the two rating scales will be included and explained below.

Conclusion

The data from both rating scales revealed that utilizing Google Classroom had an overall positive effect on the career and post-secondary readiness and self-determination skills of students with high incidence disabilities. This positive effect has many implications on future transition educational practices for students with disabilities. The results also have many implications for high school special education teachers and administrators. Chapter 5 will discuss these implications. It will also discuss limitations of the study and recommendations for future areas of research.

CHAPTER 5

Discussion

Introduction

Chapter 5 will serve three major purposes. First, it will summarize the results and discuss their implications for future transition curriculum implementation and their impact on special education teachers, students with high incidence disabilities and their families, and administrators. Next, it will discuss the limitations of the study and their possible implications. Lastly, recommendation for future research will be discussed.

Implications

The purpose of this quantitative study was to determine the effectiveness of using Google Classroom to implement a transition curriculum on the post-secondary readiness, career readiness, and self-determination skills of students with high incidence disabilities. A transition curriculum was developed and implemented incorporating researcher emphasized essential components of a transition curriculum including: age appropriate assessments, individualized and student-centered planning and goal setting, career exploration, post-secondary training exploration, employment preparations, and self-determination (Benz et al., 2000; Fullarton & Duquette, 2015; Herbert et al., 2010; Lombardi et al., 2020; Lindstrom et al., 2011; Lombardi et al., 2020; Morningstar, 1997; Trainor et al., 2016). Pretest and Posttest rating scales were used to determine if the utilization of Google Classroom had any effect on the skill acquisition of the student participants. The data from both the TPI-2 and the AIR revealed that Google Classroom has a positive effect on the post-secondary readiness, career readiness, and self-determination skills of students with high incidence disabilities. This means that it helped to strengthen and improve the students' acquisition of skills. This statistically significant improvement has several

implications for how transition curriculums are planned and implemented in the future. It also has implications for students with high incidence disabilities and their families, special education teachers, and administrators.

Impact of Transition Curriculums

The statistically significant gains made by the students with high incidence disabilities in this study on their posttests indicate that the implementation of the seven components: age appropriate assessments, individualized and student-centered planning and goal setting, career exploration, post-secondary training exploration, employment preparations, family engagement, and self-determination improved their acquisition of career readiness, post-secondary readiness, and self-determination skills. These results could be a step in the direction of identifying what should be included in an effective transition curriculum. There are many theories regarding effective transition curriculum and often leave educators and administrators unsure which curriculum to purchase or what components to implement. However, the results from this study indicate that these seven components contribute to student growth in the area of career readiness, post-secondary readiness, and self-determination skills. Thus, these seven components should be considered when planning and choosing future transition curriculums for students with high incidence disabilities to continue to promote student growth and success. However, given that students did not make a statistically significant gain in the area of leisure activities, additional activities focusing on this skill set need to be considered when making changes to the curriculum. It could also mean that a bigger sample size was needed in order to see a gain in the data.

The statistically significant student improvements indicate that Google Classroom might be the tool to help school districts improve the delivery and instructional methods of providing

transition curriculum to students with disabilities. The data also helped the researcher determine that Google Classroom can bridge the current gaps schools face when implementing a transition curriculum. Google Classroom allowed the special education teachers to assign activities for the students to complete when they had free time during their Academic Support class or study halls. The teachers were able to provide students with feedback online as well as work with the students on days of in-person instruction. Teachers did not have to try to assist students in their Academic Support Class or resource room with assignments and quizzes while also trying to provide students with transition instruction. Teachers did not have to pull students from electives or core classes to provide transition instruction. Instead the special education teachers were able to plan and design the activities ahead of time and then assign them according to student progress. This allowed teachers the ability to implement quality transition lessons instead of haphazardly implementing a lesson while also providing other students with services and support.

Additionally, due to COVID-19, part of the school year was a hybrid learning model. This means the students would come to school for two days of in-person instruction and the other three days the students engaged in online learning. Without the Google Classroom transition curriculum, the students would not have received the amount of transition instruction due to the hybrid learning model. The special education teachers were able to post lessons for students to complete at home that were already planned and designed. They could then set up times to do a Google Meet to conduct mini lessons or conference with the student or wait and conference during an in-person school day.

The implications of implementing a quality transition curriculum with fidelity for students with disabilities is paramount for improving student success after high school. Too

many students with high incidence disabilities are graduating unprepared and thus find themselves relying on others to have their needs met (Izzo et al., 2010; Lombardi et al., 2020; Rodriguez et al., 2017; Test et al., 2018). With the use of Google Classroom, teachers are able to implement a quality transition curriculum that students can access when they have time in their schedule. It also allows teachers to individualize the content and assigned lessons to each students individualized needs and interests. The flexibility that Google Classroom provides to both teachers and students is a stepping stone in the right direction of improving the skill acquisition of students with high incidence disabilities and thus their post-high school outcomes.

Impact on Students

Post-secondary and career readiness skills create the foundation that ensures students with high incidence disabilities achieve post-secondary and employment success. This is needed to help students secure financial stability and successfully live independently after high school (Izzo et al., 2010; Lombardi et al., 2020; Rodriguez et al., 2017; Test et al., 2018). The data showed that the implementation of a transition curriculum using Google Classroom improved the acquisition of this skill set which can lead to students with high incidence disabilities achieving success in post-secondary placements and successfully obtaining and maintaining employment. Achieving this success can result in the students not needing to rely on families or agencies for support and therefore improving their quality of life.

Google Classroom allowed the students the flexibility to complete lessons and assignments during their free time. They did not have to lose an elective class or be pulled from a core class in order to participate in a transition lesson. Instead they were able to view and complete the lessons when they had time in their school day. Google Classroom also allowed students to receive a more individualized instruction. When provided with transition curriculum

as a small group, the special education teachers differentiate but they are unable to fully individualize instruction to each student individualized needs, interests, or progress. However, Google Classroom provided teachers with this ability. If a senior was still unsure what they wanted to do, the teacher was able to assign career interest surveys and career research assignments to help the student begin thinking or narrowing their career choices. This flexibility enable students to receive more transition instruction than in previous years and instruction that was implemented in an organized and individualized manner thus resulting in the students gaining a stronger skills set.

Google Classroom also allowed the students to share their activities and results with the members of their family. Any assignment could be shared with a parent or guardian who has a working email address. This allows the family members to provide feedback and stay up to date on what the student is learning. Family members can greatly impact a student's decision making and thus it is important that they are involved in their transition learning (Carter et al., 2009; Fullarton & Duquette, 2015; Landmark et al., 2013; Morningstar, 1997; Piers & Duquette, 2016; Rodriguez et al, 2017; Test and Fowler, 2018; Trainor et al., 2016; Young, 2007).

The results from the study revealed that students' self-determination skills statistically improved when a transition curriculum was implemented using Google Classroom. This improved knowledge of and ability to use self-determination skills can help students with high incidence disabilities successfully enroll in post-secondary training, possess and maintain a job, live independently, and contribute to their communities. It can also enable the students to live independent and not rely heavily on their families and agencies for support. This can lead to students having a higher quality of life. Thus, it is important to continue to research and study ways to continue to improve their outcomes.

Impact on Special Education Teachers

The statistically significant positive results from this study reveal that Google Classroom can assist special education teachers in future implementations of a transition curriculum for students with high incidence disabilities. The results of this study indicate that Google Classroom can eliminate or at the least help offset the struggle special education teachers, especially those in rural school districts, face when implementing a transition curriculum for students with disabilities. This is important to ensure that transition curriculums are being implemented with fidelity to encourage and ensure student success. With Google Classroom, special education teachers do not need a common time to implement a curriculum. Instead they can assign modules and lessons for students to complete during their free periods. Teachers do not have to worry about accidently skipping lessons on important skills. They all do not have to worry about not fully covering a lesson because they are trying to not only teach the transition lesson but also provide other students with support or help on an assignment or test. Instead the curriculum will be present on Google Classroom to implement throughout the school year or school years depending on how long they provide the student with transition instruction. Teachers are also provided with the flexibility of implementing a more individualize transition curriculum to students. Teachers can implement modules and lessons based on student need, interest, and progress. Teachers are still able to mentor and guide students throughout the process both in person and online through video meetings which is important during these uncertain times with the COVID-19 pandemic.

Impact on Families

The results did determine that Google classroom did have a positive effect on the career readiness, post-secondary readiness, and self-determination skills of students with high incidence

disabilities. This skill set can enable students with high incidence disabilities to achieve success after high school and therefore improve their outcomes and quality of life. Students who have successful outcomes do not have to financially rely on others such as their families for support. They are able to successfully live on their own and possess and maintain employment. Thus, families are not required or obligated to financially support their children after high school.

Google Classroom also provided families the opportunity of being more involved in their child's learning. Studies have shown several barriers prevent families from become engaged including time and other children (Cavendish & Conner, 2018; Landmark et al., 2013; Rodriguez et al, 2017). Family members have work commitments or other children at home that do not allow them to frequently attend meetings. However, Google Classroom allowed teachers and students to include their family members in assignments, projects, and meetings. Any family member, who had a working email, could receive a copy of student work with the sharing feature. This allowed parents to provide feedback and stay informed on what their child was learning. Google Meet, a feature of Google Classroom, also enabled teachers to include parents in IEP meetings that normally would not be able to attend because of other commitments. Google Classroom and it's many features may be one way to improve the involvement of a student's family in their learning and transition process.

Impact on Administrators

Administrators are tasked with deciding which curriculum is the best curriculum to implement in the classroom for all academics, electives, and requirements. One of these state requirements is a transition curriculum for students with high incidence disabilities. The variety of transition curriculum models available for schools to implement makes it a difficult decision to make. However, the results of this study revealed that when a curriculum was implemented

using Google Classroom that focused on the seven components: age appropriate assessments, individualized and student-centered planning and goal setting, career exploration, post-secondary training exploration, employment preparations, and self-determination, students made statistically significant progress. Thus, administrators should seek to purchase or develop a curriculum containing these components or encourage and aid their special education staff to create or build a curriculum that contains these components.

The positive results of the study indicate that the flexibility that Google Classroom provides to both teachers and students may be an essential part of a transition curriculum for teachers whose job description requires them to provide additional services to students other than just transition services. Google Classroom can help teachers balance their instructional time to ensure all students are provided with the supports they need while also implementing an individualized transition curriculum with fidelity. It can allow students to access the lessons when they have time in their schedules instead of losing an elective class or being pulled form a core class because it is the only time their special education teacher has room in their schedule to teach transition. Thus, administrators should seek to maintain their schools contract with Google to ensure teacher and student access to Google Classroom or seek to find a similar format that also provides students and teachers with the same flexibility.

The positive results of this study have many implications for transition curriculums, special education teachers, administrators, families, and special education students. The knowledge from this study has the potential to change transition curriculums to improve and drastically change the post-high school outcomes of students with high incidence disabilities. However, there are limitations to the current study. As a result, future research needs conducted to determine if the same positive results are obtained from replicated studies.

Recommendations for further research

The current literature surrounding transition curriculums and a description of this study were presented in chapters one and two. When constructing the literature review, a clear gap in the literature surrounding transition curriculums was defined. At the time of its construction, there were no studies the explored utilizing Google Classroom to implement a transition curriculum. This present study provides the ground work for filling this gap in literature. It also sets the framework for replication for future studies within other school districts in Pennsylvania and nationwide.

Only nine student participants completed this study. As a result of this small size, the sample may not be fully representative of the student population of students with disabilities. Given this limitation, it is recommended that the study be replicated in larger school districts or multiple school districts at one time to determine if the same or similar results are obtained with a large participant group.

The current study utilized participants in a rural setting. Additionally, the current study utilized participants in the state of Pennsylvania. Given these limitations, it is recommended that the study be replicated in urban and city schools in the state of Pennsylvania as well as a variety of school settings nationwide.

The COVID-19 Pandemic was occurring during the time of this study. As a result, the school district in which the study took place had implemented a hybrid learning model during a portion of the study. A hybrid learning model means that the students were in school for face-to-face instruction two days a week and at home for online instruction three days a week. It is unknown if the distractions of accessing online learning in the home had an effect on the results of this study. Given this limitation, it is recommended that the study be replicated during a time

when the hybrid learning model is not being utilized and all student participants are receiving instruction in person. Additionally, this study should be replicated within a cyber-school program.

As discussed in the literature review in chapter two, family involvement is an important component of transition curriculums and programs. There are several features of Google Classroom that promote family involvement. However, the focus of this study was on the student's skill set and not tracking family involvement. As a result, it would be beneficial to replicate a similar study that focuses on studying family involvement to determine if utilizing Google Classroom to implement a transition curriculum improves and encourages student's families to become more involved.

Conclusion

There are a variety of directions future transition curriculum research can go. The goal of this study was to determine if using Google Classroom to implement a transition curriculum had an effect on the post-secondary readiness, career readiness, and self-determination skills of students with high incidence disabilities. The positive results of this study set a framework for special education teachers and administrators to use in their classrooms to assist with student growth in hopes of improving their futures and quality of life after high school. This study also sets the framework for future research studies to determine if the same results can be obtained in different school settings.

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APPENDIX A: SITE PERMISSION

GREENVILLE AREA SCHOOL DISTRICT

9 Donation Road
Greenville, Pennsylvania 16125-1799
Phone (724) 588-2500
Fax (724) 588-5024

Mr. Brian S. Tokar
Superintendent

Mr. Brandon J. Mirizio
Business Manager

November 4, 2020

Dear Slippery Rock University IRB Board,

I am writing in regards to current Greenville Area School District employee Mrs. Katie Williams. Mrs. Williams is a Special Education teacher at Greenville High School and is currently pursuing her Doctorate in Special Education at Slippery Rock University. I am happy to approve the use of Greenville High School as a site for Mrs. Williams' dissertation study. Mrs. Williams is a valued and dedicated member of our teaching staff and the District is in full support of her work to complete this terminal degree program. Please don't hesitate to contact me if I can be of any assistance in the future.

Sincerely,

Brian S. Tokar
Superintendent
Greenville Area School District

APPENDIX B: PARENTAL CONSENT

Approved
February 19, 2021
Slippery Rock University
Institutional Review Board

SlipperyRock University of Pennsylvania

PARENT/GUARDIAN CONSENT TO PARTICPATE IN RESEARCH

Effects of implementing a transition curriculum using Google Classroom on the self-determination, post-secondary readiness, and career readiness skills of high school students with high incidence disabilities

Katie Williams: kwilliams@greenville.k12.pa.us or 724-588-2500 ext. 2228

Invitation to be Part of a Research Study

Your child is being invited to participate in a research study. In order for your child to participate, they must be must be identified as a student with a high incidence disability (Autism Spectrum Disorder, Specific Learning Disability, Speech or Language Disorder, Intellectual Disability, Specific Learning Disability, or Other Health Impairment), have a current IEP, and be enrolled at Greenville High School in grade 9-12. Taking part in this research project is completely voluntary.

Important Information about the Research Study

Things you should know:

- The goal of this study is to find out if using Google Classroom to provide transition activities such as will improve the skills that students with disabilities learn to improve their ability to be successful at colleges, universities, trade schools, technical schools, apprenticeships, or places of employment.
- Risks or discomforts from this research include having their teachers and a parent/guardian complete rating scales related to their post-secondary readiness, career readiness, and self-determination skills.
- The study will aim to improve your child's post-secondary readiness, career readiness, and self-determination skills. Research has shown that students having these skills improves their ability to be successful at colleges, universities, trade schools, technical schools, apprenticeships, or places of employment after they graduate from high school.
- Taking part in this research project is voluntary. Your child doesn't have to participate and they can stop at any time.

Please take time to read this entire form and ask questions before deciding whether to allow your child to take part in this research project.

What is the Study About and Why are We Doing It?

The goal of this study is to find out if using Google Classroom to provide transition activities such as will improve the skills that students with disabilities learn to improve their ability to be successful at colleges, universities, trade schools, technical schools, apprenticeships, or places of employment. This study is being conducted because too many students with high incidence disabilities are not being successful after they graduate high school. They struggle and frequently drop out of post-secondary schools and training programs and they frequently struggle to find and keep jobs.

What Will Happen if Your Child Takes Part in This Study?

If you agree to allow your child to take part in this study, they will be asked to complete Google Classroom modules that focus on transition activities such as post-secondary exploration, career exploration, employment preparations, and self-determination. Some examples of these activities will include: researching careers they are interested in, learning how to make a resume, learning how to fill-out job applications, learning how to ask for accommodations and supports they need to be successful, and participating in virtual tours of local community colleges, trade schools, and technical schools. We expect this to take about one semester to complete. Teachers and a parent/guardian will be asked to complete rating scales to gather information about their post-secondary, career readiness, and self-determination skills. This information will be used to develop transition goals for their IEP and will help us determine what modules they should complete to help strengthen their skills.

How Could Your Child Benefit From This Study?

Your child might benefit from being in this study because they could strengthen their post-secondary readiness, career readiness, and self-determination skills. These skills could help them have a successful experience at a post-secondary school, training program, and/or place of employment.

What Risks Might Result From Being in This Study?

There are risks your child might experience from being in this study. One of the risks is a breach of confidentiality. Your child's name will not be included anywhere in the study. Instead it will be replaced with a code such as "Student A." The master list of codes will be locked up and stored separately from all completed rating scales as part of this project. Another risk your child is considered to be a person from a vulnerable population. However, he or she will complete all activities during the normal school day. There will be no changes made to your child's schedule because he or she participates in this study and they will not be pulled from any of their classes. We will be using Google Classroom which your child used in the spring during the school closures for COVID-19 and we are still using for instruction during online learning days. Lastly, there is a risk of coercion. Your child will not be penalized for not participating in this study. They will still receive transition services as outline in their IEP even if they choose not to participate in the study.

How Will We Protect Your Child's Information?

We plan to publish the results of this study. To protect your child's privacy, we will not include any information that could directly identify your child.

We will protect the confidentiality of your child's research records by replacing their name with a code. Your child's name and any other information that can directly identify your child will be stored separately from the data collected as part of the project.

What Will Happen to the Information We Collect About Your Child After the Study Is Over?

We will not keep your child's research data to use for future research or other purposes. Your child's name and other information that can directly identify your child will be kept secure and stored separately from the research data collected as part of the project.

What Other Choices does Your Child Have If They Don't Take Part in this Study?

If you choose to not permit your child to participate, there are no alternatives.

Your Child's Participation in this Research is Voluntary

It is totally up to you and your child to decide to be in this research study. Participating in this study is voluntary. Students who do not participate will not be penalized. They will still receive transition services as outlined in their IEP and will not be looked down upon or be treated any differently. Students who do participate will not receive extra credit, course credit or special treatment. Even if you or your child decide to be part of the study now, you both may change your mind and stop at any time. Your child does not have to answer any questions they do not want to answer. If your child decides to withdraw before this study is completed, their rating scales will be shred. Failure to participate and complete assigned modules, however, will result in your child being terminated from the study without your consent.

Contact Information for the Study Team and Questions about the Research

If you have questions about this research, you may contact **Dr. Jeremy Lynch at jeremy.lynch@sru.edu or 724.738.2463.**

Contact Information for Questions about Your Child's Rights as a Research Participant

If you have questions about your child's rights as a research participant, or wish to obtain information, ask questions, or discuss any concerns about this study with someone other than the researcher(s), please contact the following:

Institutional Review Board
Slippery Rock University
104 Maltby, Suite 008
Slippery Rock, PA 16057
Phone: (724)738-4846
Email: irb@sru.edu

Your Consent

By signing this document, you are agreeing to allow your child to be in this study. Make sure you understand what the study is about before you sign. I/We will give you a copy of this document for your records. I/We will keep a copy with the study records. If you have any questions about the study after you sign this document, you can contact the study team using the information provided above.

I have read this consent form and I understand what is being requested of my child as a participant in this study. I freely consent for my child to participate. I have been given satisfactory answers to my questions. The investigator provided me with a copy of this form. I certify that I am at least 18 years of age.

_____
Name of Child (Printed)

_____	_____	_____
Printed Parent/Guardian Name	Signature of Parent/Guardian	Date

By signing below I indicate that the parent/guardian has read and, to the best of my knowledge, understands the details contained in this document and have been given a copy.

_____	_____	_____
Principal Investigator's Printed Name	Principal Investigator's Signature	Date

APPENDIX C: STUDENT ASSENT

Slippery Rock University of Pennsylvania

Approved
February 19, 2021
Slippery Rock University
Institutional Review Board

VOLUNTEER ASSENT TO PARTICPATE IN RESEARCH

Effects of implementing a transition curriculum using Google Classroom on the self-determination, post-secondary readiness, and career readiness skills of high school students with high incidence disabilities

Principal Investigator: Dr. Jeremy Lynch; Jeremy.lynch@sru.edu; 724.738.2463
Katie Williams: kwilliams@greenville.k12.pa.us or 724-588-2500 ext. 2228

We want to tell you about a research study we are doing and see if you want to take part in it. Research is a way to learn more about something.

The name of this study is:

Effects of implementing a transition curriculum using Google Classroom on the self-determination, post-secondary readiness, and career readiness skills of high school students with high incidence disabilities

The researchers are: Dr. Jeremy Lynch from Slippery Rock University and Katie Williams

It is okay to ask questions about what we are telling you. You can circle or highlight things on this paper you want to know more about. If you don't understand something, just ask us. We want you to ask questions now and anytime you think of them.

We are working to find out if using Google Classroom to provide transition activities will improve the skills that students with disabilities learn to improve their ability to be successful at colleges, universities, trade schools, technical schools, apprenticeships, or places of employment.

You are being asked to be in this research study because you are identified as a student with a high incidence disability (Autism Spectrum Disorder, Specific Learning Disability, Speech or Language Disorder, Intellectual Disability, Specific Learning Disability, or Other Health Impairment), you have a current IEP, and you are enrolled at Greenville High School in grade 9-12.

For you to be in this study both you and your parent (or guardian) must agree to you being a part of it. It is the adult's job to make sure being in this study is okay for you. But it is still up to you if you *want* to do it.

Parents and children say "no" for different reasons. It may be that you would miss too many activities at school. Whatever the reason, it is your decision. You will not be treated any differently if you say "no."

If you decide to be in this research and your parent or guardian says yes, this is what will happen:

- We will have you complete post-secondary exploration, career exploration, employment preparation, and self-determination activities and lessons on Google Classroom. Some examples of these activities will include: researching careers you are interested in, learning how to make a resume, learning how to fill-out job

applications, learning how to ask for accommodations and supports you need to be successful, and participating in virtual tours of local community colleges, trade schools, and technical schools.

Some of the ways you could be helped are:

- You could learn skills to help you be more successful at a college, university, trade school, technical school, apprenticeship, or place of employment.

You don't have to be in this study if you don't want to. It is complete voluntary. Nobody will be mad at you if you don't want to be in the research study. You will not lose points, credits, be punished, or be treated any differently. You will still complete the same transition activities that are written in your IEP and that your peers are completing. You can say okay now and you can change your mind later. Just tell me or your parent/guardian if you want to stop at any time.

Signature:

I have read this form or someone has read it to me. If I did not understand something, I asked the researcher to explain it to me. I can always ask a question about the study if I don't understand something. I will be given a copy of this form.

Please check one box:

☐ **YES,** I want to be in this study and I know I can change my mind later.

☐ **NO,** I do not want to be in this study.

Child's Name (print legal name): _____

Child's Signature: _____

Date of signature: _____ _____

The following should be completed by the Principal Investigator conducting the assent process if the child agrees to be in the study. Check all that apply.

☐ The child is capable of reading and understanding the assent form and has signed above as documentation of assent to take part in this study.

☐ The child is not capable of reading the assent form, but the information was verbally explained to him/her. The child signed above as documentation of assent to take part in this study.

☐ The child had ample opportunity to have his or her questions answered.

Printed name of Principal Investigator: _____

Signature of Principal Investigator: _____

Date of signature: _____

APPENDIX D: TEACHER CONSENT TO PARTICIPATE

Slippery Rock University of Pennsylvania

Approved
February 19, 2021
Slippery Rock University
Institutional Review Board

CONSENT TO PARTICIPATE IN RESEARCH-TEACHERS

Effects of implementing a transition curriculum using Google Classroom on the self-determination, post-secondary readiness, and career readiness skills of high school students with high incidence disabilities

Principal Investigator: Dr. Jeremy Lynch; Jeremy.lynch@sru.edu; 724.738.2463
Katie Williams: kwilliams@greenville.k12.pa.us or 724-588-2500 ext. 2228

Invitation to be Part of a Research Study

You are invited to participate in a research study. In order to participate, you must be a special education or general education teacher at Greenville High School who teaches students in grades nine through 12. Taking part in this research project is voluntary.

Important Information about the Research Study

Things you should know:

- The purpose of the study is to determine if using Google Classroom to provide transition instruction improves the post-secondary readiness, career readiness, and self-determination skills of students identified as having a high incidence disability. If you choose to participate, you will be asked to complete two rating scales for student participants of the study. These will be students who have been enrolled in your courses.
- The results of the rating scale will be included in the published research study.
- Taking part in this research project is voluntary. You do not have to participate.

Please take time to read this entire form and ask questions before deciding whether to take part in this research project.

What is the Study About and Why are We Doing it?

The purpose of the study is to determine if using Google Classroom to provide transition activities will improve the skills that students with disabilities learn to improve their ability to be successful at colleges, universities, trade schools, technical schools, apprenticeships, or places of employment. This study is being conducted because too many students with high incidence disabilities are not being successful after they graduate high school. They struggle and frequently drop out of post-secondary schools and training programs and they frequently struggle to find and keep jobs.

What Will Happen if You Take Part in This Study?

If you agree to take part in this study, you will be asked to complete rating scales to gather information about student participants' post-secondary readiness, career readiness, and self-determination skills. This information will be used to develop transition goals for the student's IEPs and will help us determine what modules the student should complete to help strengthen their skills. Additionally, the data from the complete rating scales will be utilized in the study.

How Could You Benefit From This Study?

You might benefit from being in this study because you help students strengthen their post-secondary readiness, career readiness, and self-determination skills. These skills could help the students have a successful experience at a post-secondary school, training program, and/or place of employment.

What Risks Might Result From Being in This Study?

You might experience one risk from being in this study. The one risk is breach of confidentiality. Your name will not be included anywhere in the study. Instead it will be replaced with a code such as "Teacher A." The master list of codes will be locked up and stored separately from all completed rating scales as part of this project.

Lastly, there is a risk of coercion. Participating in this study is completely voluntary. Please do not feel obligated to participate. I will not think of you any differently if you decide not to participate. Please also only participate if you are able to dedicate the time to completing the rating scales.

How Will We Protect Your Information?

We plan to publish the results of this study. To protect your privacy, we will not include information that could directly identify you.

We will protect the confidentiality of your research records by replacing your name with a code. Your name and any other information that can directly identify you will be stored separately from the data collected as part of the project.

What Will Happen to the Information We Collect About You After the Study is Over?

We will not keep your research data to use for future research or other purposes. Your name and other information that can directly identify you will be kept secure and stored separately from the research data collected as part of the project.

What Other Choices do I Have if I Don't Take Part in this Study?

If you choose not to participate, there are no alternatives.

Your Participation in this Research is Voluntary

It is totally up to you to decide to be in this research study. Participating in this study is voluntary. Please only volunteer if you have time to dedicate to filling out the rating scales.

Contact Information for the Study Team and Questions about the Research

If you have questions about this research, you may contact **Dr. Jeremy Lynch at jeremy.lynch@sru.edu or 724.738.2463.**

Contact Information for Questions about Your Rights as a Research Participant

If you have questions about your rights as a research participant, or wish to obtain information, ask questions, or discuss any concerns about this study with someone other than the researcher(s), please contact the following:

Institutional Review Board
Slippery Rock University
104 Maltby, Suite 008
Slippery Rock, PA 16057
Phone: (724)738-4846
Email: irb@sru.edu

Your Consent

By signing this document, you are agreeing to be in this study. Make sure you understand what the study is about before you sign. I/We will give you a copy of this document for your records. I/We will keep a copy with the study records. If you have any questions about the study after you sign this document, you can contact the study team using the information provided above.

I understand what the study is about and my questions so far have been answered. I agree to take part in this study. I understand that I can withdraw at any time. A copy of this signed Consent Form has been given to me.

Printed Participant Name	Signature of Participant	Date

By signing below, I indicate that the participant has read and to the best of my knowledge understands the details contained in this document and have been given a copy.

Printed Name of Investigator	Signature of Investigator	Date

APPENDIX E: AIR TOTAL SCORES

Student 1	General Ed Teacher		Special Ed Teacher		Parent/Guardian		Average		Difference
Categories	Pretest	Posttest	Pretest	Posttest	Pretest	Posttest	Pretest	Posttest	
Knowledge	20	18	20	19	19	20	19.7	19.0	-0.7
Ability	23	21	19	17	24	25	22.0	21.0	-1.0
							41.7	40.0	-1.7
Student 2	General Ed Teacher		Special Ed Teacher		Parent/Guardian		Average		Difference
Categories	Pretest	Posttest	Pretest	Posttest	Pretest	Posttest	Pretest	Posttest	
Knowledge	18	24	20	24	23	23	20.3	23.7	3.3
Ability	17	19	20	24	24	30	20.3	24.3	4.0
							40.7	48.0	7.3
Student 3	General Ed Teacher		Special Ed Teacher		Parent/Guardian		Average		Difference
Categories	Pretest	Posttest	Pretest	Posttest	Pretest	Posttest	Pretest	Posttest	
Knowledge	21	23	21	30	27	22	23.0	25.0	2.0
Ability	22	27	22	30	30	29	24.7	28.7	4.0
							47.7	53.7	6.0
Student 4	General Ed Teacher		Special Ed Teacher		Parent/Guardian		Average		Difference
Categories	Pretest	Posttest	Pretest	Posttest	Pretest	Posttest	Pretest	Posttest	
Knowledge	20	26	13	13	15	17	16.0	18.7	2.7
Ability	17	17	14	14	21	21	17.3	17.3	0.0
							33.3	36.0	2.7
Student 5	General Ed Teacher		Special Ed Teacher		Parent/Guardian		Average		Difference
Categories	Pretest	Posttest	Pretest	Posttest	Pretest	Posttest	Pretest	Posttest	
Knowledge	14	15	18	19	13	8	15.0	14.0	-1.0
Ability	15	19	16	18	22	18	17.7	18.3	0.7
							32.7	32.3	-0.3
Student 6	General Ed Teacher		Special Ed Teacher		Parent/Guardian		Average		Difference
Categories	Pretest	Posttest	Pretest	Posttest	Pretest	Posttest	Pretest	Posttest	
Knowledge	19	27	13	21	19	24	17.0	24.0	7.0
Ability	21	28	17	20	24	24	20.7	24.0	3.3
							37.7	48.0	10.3
Student 7	General Ed Teacher		Special Ed Teacher		Parent/Guardian		Average		Difference
Categories	Pretest	Posttest	Pretest	Posttest	Pretest	Posttest	Pretest	Posttest	
Knowledge	21	24	14	20	18	20	17.7	21.3	3.7
Ability	22	25	17	18	25	25	21.3	22.7	1.3
							39.0	44.0	5.0
Student 8	General Ed Teacher		Special Ed Teacher		Parent/Guardian		Average		Difference
Categories	Pretest	Posttest	Pretest	Posttest	Pretest	Posttest	Pretest	Posttest	
Knowledge	24	29	16	18	26	29	22.0	25.3	3.3
Ability	23	29	16	19	30	30	23.0	26.0	3.0
							45.0	51.3	6.3
Student 9	General Ed Teacher		Special Ed Teacher		Parent/Guardian		Average		Difference
Categories	Pretest	Posttest	Pretest	Posttest	Pretest	Posttest	Pretest	Posttest	
Knowledge	19	19	19	26	25	30	21.0	25.0	4.0
Ability	15	17	20	23	18	25	17.7	21.7	4.0
							38.7	46.7	8.0

APPENDIX F: TPI2-TOTAL SCORES

Student 1	General Ed Teacher		Special Ed Teacher		Parent/Guardian		Average		Difference
Categories	Pretest	Posttest	Pretest	Posttest	Pretest	Posttest	Pretest	Postest	
Career Choice and Planning	16	13	15	16	16	17	15.7	15.3	-0.3
Employment: Knowledge and skills	17	13	11	15	8	18	12.0	15.3	3.3
Further Education/Training	15	15	9	15	8	14	10.7	14.7	4.0
Functional Communication	14	14	15	15	13	15	14.0	14.7	0.7
Self-Determination	29	25	21	24	16	19	22.0	22.7	0.7
Independent Living	18	16	14	16	19	19	17.0	17.0	0.0
Personal Money Management	12	11	9	14	6	8	9.0	11.0	2.0
Community Involvment and Usage	22	20	17	17	18	14	19.0	17.0	-2.0
Leisure Activities	17	17	15	16	10	12	14.0	15.0	1.0
Health	20	15	16	16	15	17	17.0	16.0	-1.0
Interpersonal Relationships	28	24	21	16	24	24	24.3	21.3	-3.0
Total							174.7	180.0	5.3
Student 2	General Ed Teacher		Special Ed Teacher		Parent/Guardian		Average		Difference
Categories	Pretest	Posttest	Pretest	Posttest	Pretest	Posttest	Pretest	Postest	
Career Choice and Planning	11	14	3	15	6	10	6.7	13.0	6.3
Employment: Knowledge and skills	12	25	5	15	6	9	7.7	16.3	8.7
Further Education/Training	5	13	3	16	4	6	4.0	11.7	7.7
Functional Communication	16	18	12	14	20	20	16.0	17.3	1.3
Self-Determination	28	38	7	34	23	22	19.3	31.3	12.0
Independent Living	23	26	14	24	17	20	18.0	23.3	5.3
Personal Money Management	8	16	6	10	10	13	8.0	13.0	5.0
Community Involvment and Usage	14	26	10	24	10	16	11.3	22.0	10.7
Leisure Activities	20	20	16	16	8	11	14.7	15.7	1.0
Health	18	25	18	18	22	24	19.3	22.3	3.0
Interpersonal Relationships	35	34	23	22	29	33	29.0	29.7	0.7
							154.0	215.7	61.7
Student 3	General Ed Teacher		Special Ed Teacher		Parent/Guardian		Average		Difference
Categories	Pretest	Posttest	Pretest	Posttest	Pretest	Posttest	Pretest	Postest	
Career Choice and Planning	9	11	6	17	20	20	11.7	16.0	4.3
Employment: Knowledge and skills	15	25	15	25	23	25	17.7	25.0	7.3
Further Education/Training	5	16	6	17	19	20	10.0	17.7	7.7
Functional Communication	16	18	13	20	20	20	16.3	19.3	3.0
Self-Determination	30	36	18	39	36	40	28.0	38.3	10.3
Independent Living	24	28	15	26	30	30	23.0	28.0	5.0
Personal Money Management	8	20	4	18	20	20	10.7	19.3	8.7
Community Involvment and Usage	15	30	18	28	30	30	21.0	29.3	8.3
Leisure Activities	20	20	13	19	20	20	17.7	19.7	2.0
Health	25	25	19	25	19	25	21.0	25.0	4.0
Interpersonal Relationships	30	35	25	31	31	35	28.7	33.7	5.0
							205.7	271.3	65.7

Student 4	General Ed Teacher		Special Ed Teacher		Parent/Guardian		Average		Difference
Categories	Pretest	Posttest	Pretest	Posttest	Pretest	Posttest	Pretest	Postest	
Career Choice and Planning	9	20	8	12	13	15	10.0	15.7	5.7
Employment Knowledge and skills	13	19	4	5	7	10	8.0	11.3	3.3
Further Education/Training	12	14	2	4	3	5	5.7	7.7	2.0
Functional Communication	16	20	8	11	7	8	10.3	13.0	2.7
Self-Determination	22	30	10	16	8	18	13.3	21.3	8.0
Independent Living	21	25	2	14	11	11	11.3	16.7	5.3
Personal Money Management	8	16	0	9	2	6	3.3	10.3	7.0
Community Involvment and Usage	15	26	6	7	8	16	9.7	16.3	6.7
Leisure Activities	20	19	14	14	15	16	16.3	16.3	0.0
Health	21	13	6	14	9	12	12.0	13.0	1.0
Interpersonal Relationships	28	21	16	23	10	13	18.0	19.0	1.0
							118.0	160.7	42.7
Student 5	General Ed Teacher		Special Ed Teacher		Parent/Guardian		Average		Difference
Categories	Pretest	Posttest	Pretest	Posttest	Pretest	Posttest	Pretest	Postest	
Career Choice and Planning	3	12	10	2	0	8	4.3	7.3	3.0
Employment Knowledge and skills	4	11	9	2	4	9	5.7	7.3	1.7
Further Education/Training	1	13	4	2	0	8	1.7	7.7	6.0
Functional Communication	13	18	11	15	6	10	10.0	14.3	4.3
Self-Determination	15	24	19	15	9	16	14.3	18.3	4.0
Independent Living	14	20	18	7	6	15	12.7	14.0	1.3
Personal Money Management	7	13	7	3	0	14	4.7	10.0	5.3
Community Involvment and Usage	15	26	14	8	3	8	10.7	14.0	3.3
Leisure Activities	20	14	12	11	11	5	14.3	10.0	-4.3
Health	14	10	17	14	10	13	13.7	12.3	-1.3
Interpersonal Relationships	18	19	21	19	9	17	16.0	18.3	2.3
							108.0	133.7	25.7
Student 6	General Ed Teacher		Special Ed Teacher		Parent/Guardian		Average		Difference
Categories	Pretest	Posttest	Pretest	Posttest	Pretest	Posttest	Pretest	Postest	
Career Choice and Planning	13	20	13	14	16	19	14.0	17.7	3.7
Employment Knowledge and skills	14	24	3	7	18	25	11.7	18.7	7.0
Further Education/Training	4	19	0	10	12	15	5.3	14.7	9.3
Functional Communication	14	18	9	12	12	12	11.7	14.0	2.3
Self-Determination	17	39	11	14	28	32	18.7	28.3	9.7
Independent Living	18	28	11	13	25	25	18.0	22.0	4.0
Personal Money Management	5	20	3	7	14	15	7.3	14.0	6.7
Community Involvment and Usage	18	28	3	8	25	26	15.3	20.7	5.3
Leisure Activities	20	20	10	13	17	17	15.7	16.7	1.0
Health	14	25	7	15	19	19	13.3	19.7	6.3
Interpersonal Relationships	30	35	20	24	23	27	24.3	28.7	4.3
							155.3	215.0	59.7

Student 7	General Ed Teacher		Special Ed Teacher		Parent/Guardian		Average		Difference
Categories	Pretest	Posttest	Pretest	Posttest	Pretest	Posttest	Pretest	Postest	
Career Choice and Planning	12	14	11	16	5	14	9.3	14.7	5.3
Employment Knowledge and skills	14	20	12	19	7	15	11.0	18.0	7.0
Further Education/Training	5	18	8	15	6	12	6.3	15.0	8.7
Functional Communication	16	16	10	16	10	12	12.0	14.7	2.7
Self-Determination	15	40	15	24	13	24	14.3	29.3	15.0
Independent Living	29	24	10	20	18	19	19.0	21.0	2.0
Personal Money Management	22	13	7	14	5	10	11.3	12.3	1.0
Community Involvment and Usage	4	28	9	22	18	18	10.3	22.7	12.3
Leisure Activities	21	20	12	20	20	20	17.7	20.0	2.3
Health	20	21	10	19	13	19	14.3	19.7	5.3
Interpersonal Relationships	17	27	14	22	18	21	16.3	23.3	7.0
							142.0	210.7	68.7
Student 8	General Ed Teacher		Special Ed Teacher		Parent/Guardian		Average		Difference
Categories	Pretest	Posttest	Pretest	Posttest	Pretest	Posttest	Pretest	Postest	
Career Choice and Planning	18	18	8	16	20	20	15.3	18.0	2.7
Employment Knowledge and skills	19	19	11	15	19	25	16.3	19.7	3.3
Further Education/Training	9	20	10	13	16	16	11.7	16.3	4.7
Functional Communication	11	11	11	11	20	20	14.0	14.0	0.0
Self-Determination	28	34	11	20	25	40	21.3	31.3	10.0
Independent Living	28	28	17	22	23	30	22.7	26.7	4.0
Personal Money Management	14	16	11	13	13	20	12.7	16.3	3.7
Community Involvment and Usage	25	25	13	19	20	30	19.3	24.7	5.3
Leisure Activities	16	19	12	20	20	20	16.0	19.7	3.7
Health	20	20	11	18	25	25	18.7	21.0	2.3
Interpersonal Relationships	28	28	25	28	35	35	29.3	30.3	1.0
							197.3	238.0	40.7
Student 9	General Ed Teacher		Special Ed Teacher		Parent/Guardian		Average		Difference
Categories	Pretest	Posttest	Pretest	Posttest	Pretest	Posttest	Pretest	Postest	
Career Choice and Planning	14	19	17	17	12	20	14.3	18.7	4.3
Employment Knowledge and skills	15	15	20	20	21	25	18.7	20.0	1.3
Further Education/Training	9	15	12	10	8	16	9.7	13.7	4.0
Functional Communication	11	13	16	16	12	16	13.0	15.0	2.0
Self-Determination	15	21	29	22	24	32	22.7	25.0	2.3
Independent Living	11	21	21	17	18	30	16.7	22.7	6.0
Personal Money Management	9	16	14	12	12	17	11.7	15.0	3.3
Community Involvment and Usage	16	25	20	18	26	30	20.7	24.3	3.7
Leisure Activities	11	20	18	10	20	20	16.3	16.7	0.3
Health	13	16	19	19	19	25	17.0	20.0	3.0
Interpersonal Relationships	23	31	22	21	29	35	24.7	29.0	4.3
							185.3	220.0	34.7