

DIFFERENCES IN CAREER DEVELOPMENT PROGRESS BETWEEN SIXTH-GRADE
GENERAL AND SPECIAL EDUCATION STUDENTS AFTER COMPLETING A CAREER
DEVELOPMENT CURRICULUM

by

TaLonne Renee Gungle

Liberty University

A Dissertation Presented in Partial Fulfillment

Of the Requirements for the Degree

Doctor of Education

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ABSTRACT

Career development is a lifelong process that begins in childhood and continues throughout adulthood. Little effort has been devoted to childhood career development; the focus is generally for older adolescents. The purpose of this study is to evaluate the differences in career development between general education and special education students who participate in a career development intervention and students that do not participate in the intervention. The results of this study are important to special education, so adequate interventions can be completed to better assist these students in career development. The study is a quasi-experimental nonequivalent control-group design that compares three treatment schools to three comparison schools. The *Childhood Career Development Scale* was used to evaluate the career development progress of sixth-grade students. The sample consisted of 279 sixth-grade students with 151 boys and 128 girls with a mean age of 11.8 years. A two-way multivariate analysis of variance evaluated the subscales on the *Childhood Career Development Scale* for each group of students. The results show no significant difference between students that participated in the curriculum and those that did not participate and no significant interaction between curriculum and educational placement. There were significant differences in the subscales of planning, time perspective, locus of control, and interests between general education and special education students, with general education students having a statistically higher mean score in those subscales. Future research could include longitudinal studies that explore career development over time and incorporate early career development activities that transition to in-depth exploration.

Keywords: childhood career development, middle school, career exploration, quantitative

Dedication

This dissertation is dedicated to my family. First, this work is dedicated to my children, Embree, Thorin, and Ronin. You have watched me work through this journey and persevere to the end. I hope my example will help each of you to chase your dreams and motivate you to strive for your best. Next, this is dedicated to my husband, Bryan. I appreciate your love, patience, and understanding as I undertook and finally completed this journey. Your support helped to motivate me and keep me on track. I would also like to dedicate this work to my parents, Tracy and Bob. Your love, encouragement, and support have helped make me who I am, and I appreciate the hard work and grit you instilled in me from a young age. I also want to dedicate this to my step-father, Chad. Thank you for always believing in me. Finally, I want to dedicate this work to my sister, Kaitlin, and my brother, Dillon. I appreciate the love and encouragement you each have shown me throughout our lives. My family, I love you all, and I appreciate everything you have done to support me.

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List of Abbreviations

Analysis of covariance (ANCOVA)

Individualized education program (IEP)

Individuals with Disabilities Act (IDEA)

Theory of Work Adjustment (TWA)

Multivariate analysis of variance (MANOVA)

Analysis of variance (ANOVA)

Coronavirus disease-19 (COVID-19)

CHAPTER ONE: INTRODUCTION

Overview

Career development is an essential aspect of education for students with and without disabilities. The following study will describe the differences students with disabilities experience during career development. This chapter describes the background of childhood career development, purpose statement, significance of the study, research questions, and definitions of major terms.

Background

The transition from secondary student to early adulthood is a critical developmental milestone (Austin et al., 2018), which can be an exciting time for young adults. The period of early adulthood is marked by increased independence and self-discovery (Austin et al., 2018). For some young adults, however, this period of life is much more challenging. The transition to post-secondary life that students with disabilities experience is often more challenging than that of their peers without disabilities. Some of the challenges students with disabilities encounter during transition include increased frequency of anxiety and depression (Austin et al., 2018), elevated stress (Feldman et al., 2016), and heightened loneliness (Quan et al., 2014).

Federal mandates such as the Individuals with Disabilities Act (IDEA, 2004) seek to mitigate the adverse outcomes students with disabilities can experience through transition planning services. The goal of transition services is to improve the outcomes experienced by students with disabilities when they transition to early adulthood (IDEA, 2004). These services coordinate the individual student's strengths, needs, preferences, and interests to develop goals and objectives for post-secondary life for independent living, adult education, adult services, and employment (IDEA, 2004). The desired outcomes for students after transition include obtaining

and keeping employment to enjoy a good quality of life, participating in post-secondary education, becoming a valued member of society, pursuing hobbies and activities, and enhancing self-determination (Morgan & Riesen, 2016).

IDEA (2004) requires some transition planning services to begin at the age of 16. However, some experts recommend starting as early as sixth-grade (Morgan & Riesen, 2016; Nielsen, 2013). Students with disabilities are more likely to experience positive post-transition outcomes when they begin the career development process earlier in their academic career (Cimera et al., 2014; Test et al., 2009). Students with disabilities should partake in career development activities throughout their academic careers to form an appropriate career pathway for their skills, interests, and desires (Morgan & Riesen, 2016).

Career development is a life-long process that begins in early childhood and continues throughout a person's life (Gottfredson, 1999; Super et al., 1996). Career development provides students with the opportunity to explore various career options available to them (Felix et al., 2016). The career pathway an individual chooses is a personal endeavor that is influenced by the individual's decisions, attitudes, behaviors, education, and opportunities (Brown & Bimrose, 2016). Most career development interventions occur in late adolescence or early adulthood (Cerrito et al., 2018). Research that addresses career development and specific interventions during childhood is limited (Wood & Kaszubowski, 2008). Another area that demonstrates inadequate research is career development and career planning for students with disabilities as compared to students without disabilities (Miller et al., 2007; Rojewski, 2002; Trainor et al., 2012).

Childhood Career Development

One objective of school is preparing students for a career in which students can excel and contribute meaningfully to society (Wood & Kaszubowski, 2008). Because career development is a lifelong process, career exploration should begin in childhood. However, the field of career development research is limited for children (Hartung et al., 2005; Oliveira et al., 2015; Schultheiss, 2008; Watson & McMahon, 2005). Evidence is also lacking in the best methods to apply childhood career development in practice (Cerrito et al., 2018).

Gottfredson (1981, 2002) described the process of childhood career development and emphasized the way children narrow down career options due to cultural expectations, gender roles, and social value of occupations. Gottfredson (1981, 2002) outlined a four-stage process of circumspection by which children narrow down career choices. The first stage is orientation to size and power, where children aged 3-5 years understand the difference in power between themselves and adults; the second stage occurs when children aged 6-8 years become aware of gender roles and assigns careers to specific roles; in the third stage children aged 9-13 years assign values to careers and rank them; and the final stage is when children aged 9-13 years decide on careers that are based on their unique characteristics.

Super (1957) theorized career development as a lifelong process that begins in childhood. The first stage, from birth to 14 years, was described as the growth stage, in which children become concerned about the future, experience increasing autonomy, become aware of the importance of school and work, and develop habits and attitudes (Super et al., 1996). Super (1990) proposed a nine-subscale model of childhood career development (*i.e.*, information, curiosity, exploration, interests, locus of control, key figures, time perspective, planning, and self-concept). According to Schultheiss (2008), Super's explanation of childhood career

development was the most comprehensive, but little research was conducted to support or refute his theory until 2004.

Schultheiss and Stead (2004) developed the first empirical measure of Super's (1990) model. More recently the scale was validated among Italian middle school students (Ferrari et al., 2018), among South African primary school children (Stead & Schultheiss, 2010), and among Portuguese pre-adolescents (Silva et al., 2017). Since the initial Schultheiss and Stead (2004) scale, more research has been conducted for children using the scale based on Super's theory. Schultheiss et al. (2005) conducted a qualitative study with fourth- and fifth-grade students by evaluating writing assignments and scoring them compared to Super's nine dimensions. Cerrito et al. (2018) utilized a pretest-posttest comparison group experiment design to compare web-based and traditional career interventions in fourth- and fifth-grade students. Wood and Kaszubowski (2008) explored the career needs of rural fourth-grade students and described possible career development interventions. Kovach (2018) utilized a pretest-posttest design to identify and evaluate the effectiveness of a career development intervention on the career aspirations of sixth-grade students.

Career Development in Special Education

Special education transition refers to the transition a student with disabilities experiences upon the completion of high school and the transition to adult life (Chen, 2019). The Individuals with Disabilities Education Improvement Act (IDEA, 2004) mandates that students with disabilities receive transition services to prepare them for postsecondary education, employment, and living independently. IDEA also mandates that special education students are required to set transition goals and receive transition services (Sprunger et al., 2018).

Test et al. (2009) calculated the effect sizes of sixteen transition predictors that can improve post-school outcomes for students with disabilities. The research concluded that all sixteen predictors were linked to post-school employment. Specific to career development, career awareness had a small to medium effect size, occupational courses had a small to large effect size, work experience had a small to large effect size, vocational education had a small to large effect size, and work-study had a small to large effect size (Test et al., 2009).

Career development can have a positive impact on students with disabilities. However, career development for students with disabilities can often be set aside for other, more immediate concerns like remaining in school and controlling adverse behaviors (Trainor et al., 2012). Research on career assessment and employment planning for students with disabilities is also limited and incomplete when compared to students in general education (Haber et al., 2016; Miller et al., 2007; Rojewski, 2002; Trainor et al., 2012).

Theobald et al. (2019) utilized a longitudinal study to investigate the relationships among career and technical education, general education inclusion, and postsecondary outcomes for high school students with disabilities. The results demonstrated that students with disabilities who participate in career and technical education are more likely to be employed after high school. Haber et al. (2016) conducted a metanalytic review on school predictors developed by Test et al. (2009) to review postsecondary employment, education, and independent living of students with disabilities. The metaanalysis reviewed the literature published between 1984 and 2010 and found school predictors were significant for education and employment and nonsignificant for productivity and independent living outcomes (Haber et al., 2016). Benz et al. (2000) conducted two studies that examined secondary and transition practices; the first study investigated predictors of graduation with a standard diploma and placement in employment, and

the second study investigated the students' perceptions of program and faculty characteristics that were most helpful. Benz et al. (2000) concluded that career-related work experience and completion of student-created transition goals were significantly associated with improved graduation and employment outcomes.

Research indicates that career development is a crucial indicator of post-secondary success (Benz et al., 2000; Haber et al., 2016; Test et al., 2009; Theobald et al., 2019). Career and college readiness standards seek to prepare for postsecondary education or careers without the need for remedial courses (Grigal et al., 2019). These efforts are primarily focused on high school, but it is becoming more apparent that career and college readiness standards can have a more significant impact if begun in middle school (Maitre, 2014). Career development at an earlier age is critical for keeping students on the college pathway (Cavanagh, 2009).

Societal Effects

The limited enrollment of students with disabilities in postsecondary educational institutions and limited employment is a critical concern for society at large. Students with disabilities face difficulties with college enrollment and post-school employment as compared to their general education peers (Cavanagh, 2009). Only nineteen percent of undergraduates reported having a disability in 2015-16, as compared to eighty percent of undergraduates without disabilities (U.S. Department of Education, 2019). Research has also demonstrated that individuals with disabilities participate in the workforce at a much lower rate than individuals without disabilities *i.e.*, 27% employed with disabilities compared to 77% employed without disabilities (U.S. Department of Commerce, 2016). To begin to remedy this issue, career development should begin earlier than high school, and especially for students with disabilities (Grigal et al., 2019).

Theoretical Background

The theoretical background for this research stems from Donald Super's (1990) model of childhood career development. This theory is used as the foundation for many studies conducted with children (Cerrito et al., 2018; Oliveira et al., 2015; Schultheiss, 2005; Schultheiss et al., 2005; Wood & Kaszubowski, 2008). Super's (1990) theory describes career choice as a lifelong, developmental process that occurs as individuals form a self-concept and discover their place in the world (Rojewski, 2002; Wood & Kaszubowski, 2008). This theory begins at birth with the growth stage and continues throughout an individual's life (Super, 1957). The growth stage, birth to 14 years, includes four career development tasks: thinking about the future, increasing autonomy, understanding the importance of school and work, and acquiring competent attitudes and habits (Super, 1957). The childhood career development theory consists of nine dimensions *i.e.*, information, curiosity, exploration, interests, locus of control, key figures, time perspective, planning, and self-concept (Super, 1990). Successful career development in the subscales is assumed to result in problem-solving and decision making (Schultheiss & Stead, 2004).

In the current study, Super's (1990) theory would support the assumption that the independent variable career development curriculum will influence the dependent variable, career development progress. This assumption is plausible because students in the growth stage would be expected to demonstrate growth in career development tasks as they age and experience more career development activities. The theory would support that students are growing and maturing in the areas of career development. The theory would also support influence of the second independent variable, type of educational placement, on the dependent variable, career development progress. The theory would support that regardless of classroom placement, all students should be demonstrating growth in career development progress.

Problem Statement

Career development is a lifelong activity that occurs in different stages through an individual's life (Super, 1990). As children transition to different life stages, the way in which they explore and think about careers change. The literature on career development for adolescents without disabilities is extensive (Chen, 2019; Ferrari et al., 2018; Oliveira et al., 2015;). However, the research conducted on career development for middle school students with disabilities is severely limited (Chen, 2019). Career development research that examines childhood (Ferrari et al., 2018; Oliveira et al., 2015) and middle school students with disabilities (Bowles, 2017; Chen, 2019; Haber et al., 2016) is limited and inadequate. Typically, career development research and transition research are focused on high school age students (Chen, 2019; Ferrari et al., 2018; Oliveira et al., 2015). Students with disabilities typically experience more negative post-transition outcomes than their peers (Austin et al., 2018; Feldman et al., 2016; Haber et al., 2016; Quan et al., 2014). Therefore, career development is vital to the postsecondary success of students with disabilities.

Previous studies demonstrate the need to research middle school students with and without disabilities. Few recent studies involve middle school students or students with disabilities. The current study seeks to remove some of the limitations found in previous studies by using the *Childhood Career Development Scale* with the intended age group, using more participants, implementing a structured curriculum, and having a control group. The current study also seeks to expand upon research areas that have negligible research by studying middle school students with disabilities.

Although it has been established that earlier career development activities are more beneficial, current literature more thoroughly investigates career development at the high school

level for students without disabilities than it does for other grade levels or students with disabilities (Chen, 2019; Ferrari et al., 2018). The problem is that the literature has not fully addressed career development in middle school special education students.

Purpose Statement

The purpose of this quantitative, quasi-experimental nonequivalent control-group design study is to compare the differences in career development progress between groups of sixth-grade general education and special education students after a career intervention has been completed. The first independent variable is career development curriculum and has two levels: present and non-present. The presence of career development curriculum involves the five lessons from the *Roads to Success* (2010) curriculum in which students investigate themselves and careers and determine a future career path. The non-presence of career development curriculum indicates that no curriculum specific to career development was utilized. The second independent variable is type of educational placement and has two levels, general education or special education. General education is described as being placed in a traditional classroom that does not expressly utilize special education protocols. Special education placement includes a situation in which a student has a learning or behavioral disability that requires special educational provisions to be made through an individualized education program, or IEP (Frey, 2018; Wedell, 2017). The dependent variable is career development progress as measured by the subscale scores on the *Childhood Career Development Scale* (*i.e.*, planning, self-concept, information, interests, locus of control, curiosity/exploration, key figures, and time perspective) (Ferrari et al., 2018; Schultheiss & Stead, 2004; Silva et al., 2017; Stead & Schultheiss, 2004, 2010). Career development progress is defined as the process in which children relate potential careers to themselves while eliminating undesirable career choices and compromising on choices

that are less favored but more attainable (Gottfredson, 2002; Schultheiss & Stead, 2004). The covariate will be preexisting levels of career development progress prior to the intervention.

The participants in this study will include sixth-grade students at six middle schools within five school districts in an eastern state. Three schools will receive the treatment intervention, career development curriculum, and three schools will not receive the intervention.

Significance of the Study

Career development is a vital part of education for students with disabilities (Haber et al., 2016; Test et al., 2009; Theobald et al., 2019). Research on career assessment and employment planning for students with disabilities is limited and incomplete when compared to students in general education (Haber et al., 2016; Miller et al., 2007; Rojewski, 2002; Trainor et al., 2012). Federal law mandates that students with disabilities receive services that assist them in achieving in postsecondary education, maintaining employment, and living independently (IDEA, 2004). Transition services generally focus on high school because these students will be leaving secondary schools sooner than students in lower grade levels (Benz et al., 2000). However, many have begun to assert that career development that leads to successful post-school transitions should begin at a younger age (Grigal et al., 2019; Haber et al., 2016).

The significance of this study is that it would contribute to the practicality of career development for students with disabilities beginning at an earlier age. It would also compare students with disabilities to better understand the effect of a career development intervention. The data can supply information about which of Super's nine dimensions differs significantly between the groups and can provide a basis to develop targeted interventions to address any potential deficits for students with disabilities.

Research Question

RQ: Is there a difference between the mean career development progress scores of sixth-grade students who participate in a career development curriculum and those who do not participate, based on type of educational placement (general education or special education) while controlling for pretest scores?

Definitions

1. *Advisory class*—a period during the school day that provides opportunities for students to learn how to deal with emotions, develop positive relationships with others, manage stress, build self-esteem, and develop mindsets needed to be successful (Bennett & Martin, 2018)
2. *Career-and-college-readiness standards*— Policy 2510 of an eastern state that describes foundational standards and dispositions that students need to be successful in higher education and training for future employment, and are addressed during advisory class periods (West Virginia Department of Education, 2017)
3. *Career development*—the process in which children relate potential careers to themselves while eliminating undesirable career choices and compromising on choices that are less favored but more attainable (Gottfredson, 2002; Schultheiss & Stead, 2004)
4. *Childhood Career Development Scale*—a theoretically constructed scale to measure career development progress in fourth- through sixth-grade students that include eight subscales (*i.e.*, planning, self-concept, information, interests, locus of control, curiosity/exploration, key figures, and timer perspective) (Schultheiss & Stead, 2004)
5. *Childhood*—the age span from three years to fourteen years (Hartung et al., 2005; Super, 1994)

6. *Individualized education program*—a written plan that documents the services and additional supports a student with disabilities must receive to ensure an appropriate education (Goldman & Mason, 2018)
7. *Special education placement*—a type of education a student receives if the student has a learning or behavioral disability that requires special educational provisions be made for the student in an individualized education program (IEP) (Frey, 2018; Wedell, 2017)
8. *Special education transition*—the transition a student with disabilities experiences upon the completion of high school and the transition to adult life (Chen, 2019)
9. *Transition services*—coordinated actions for students with disabilities that are designed to improve the academic achievement and independence when these students transition from school to post-secondary life (IDEA, 2004)

CHAPTER TWO: LITERATURE REVIEW

Overview

The purpose of this quantitative, quasi-experimental nonequivalent control-group design study is to compare the differences in career development progress scores between sixth-grade general education and special education students after a career development curriculum has been completed. Current literature demonstrates several key trends involving childhood career development. The literature does not have a predominant theoretical framework that recognizes constructs during childhood career development; few longitudinal or contextual studies exist; at-risk or minority groups are underrepresented in the literature; and international collaboration in childhood career development is limited (Oliveira et al., 2016).

Chapter Two will discuss the conceptual and theoretical framework of this study, including the relevant theories from the body of literature. The chapter will also highlight the necessity of career development research for middle school students with disabilities.

Theoretical Framework

The theoretical frameworks that describe career development are many. The theories are derived from several different academic disciplines and epistemological foundations, which focus on different areas of career development (Patton & McMahon, 2014). The field of career studies as a whole lacks an integrative theory that adequately describes all aspects of career development. Some of the more prominent theories include occupational choices (Ginzberg et al., 1951), life-span, life-space approach (Super, 1990; Super et al., 1996), person-environment matching (Holland, 1959, 1997), and circumspection and compromise (Gottfredson, 1981).

Occupational choice theory divided career development into three stages: fantasy choice from ages 6-11 years, tentative choice from ages 12-17 years, and realistic choice from age 18

through adulthood (Ginzberg et al., 1951). As individuals advanced through the stages, they become more aware of their interests and abilities, and apply these to choosing a realistic career. The occupational choice theory influenced vocational psychology for decades and caused psychologists to view career choice as a developmental process that begins in the elementary years (Trice & Greer, 2017).

From a developmental theoretical framework, career development is understood to begin at birth and continue through childhood to adolescence and through adulthood (Flum & Blustein, 2000; Ginzberg et al., 1951; Gottfredson, 1999; Stumpf et al., 1983; Super, 1990). Life-span perspectives define career development as a dynamic and continuous process that is triggered by life transitions (Flum & Blustein, 2000; Gross-Spector & Cinamon, 2018; Super et al., 1996). Each individual's career development is varied and nonlinear with some aspects, like exploration, reoccurring throughout different life stages (Jiang et al., 2019).

The person-environment matching theory is based on individual personalities, and it is assumed that people are seeking job environments that meet their skills, abilities, values, and attitudes (Holland, 1997). Successful individuals would be more likely to be working in a career that meets their personality (Trice & Greer, 2017). Holland's theory consists of six personality types that match six work environments (Holland, 1997). The theory described the importance of early childhood experiences helping to form interests but is not more specific for childhood (Trice & Greer, 2017).

Gottfredson (1981) was the first to propose a theory specific to childhood and early adolescence. The Theory of Circumscription and Compromise consists of four stages of career development that include orientation to size and power, ages 3-5 years; orientation to sex roles, ages 6-8 years; orientation to social valuation, ages 9-13 years; and orientation to the internal

unique self, age 14 and older (Gottfredson, 1981). Individuals progress through career development and eliminate vocations to find a career path based upon their self-concept.

The field of career development does not benefit from a single unifying theory. Instead, theories seem to be piecemeal and can range from many ages that may or may not include childhood. Oliveira and colleagues (2016) reviewed childhood career development articles written between January 2008 and May 2015 and found that 20 different theories supported 77 articles; Gottfredson's (41 percent) and Super's (24 percent) theories were the most often cited. Jiang and colleagues (2019) reviewed the literature and found that a dynamic, life-span perspective is needed to enhance the understanding of career development. These studies demonstrate the lack of a unified theory to inform research in career development. The current study will focus on the life-span, life-space theory of career development as it relates to the childhood stages of interest and curiosity.

Career development theory has seen several iterations and changes throughout its nearly one-hundred-year history. During the late 1800s, the United States began to shift from agriculture to industry and manufacturing. With this shift, the types of available occupations also began to change. Workers struggled to identify and access these new positions, many of which were now centered in urban areas, causing individuals to move from their rural homes (Niles & Harris-Bowlsbey, 2017). Additionally, large numbers of immigrants were also settling in the United States, fleeing war, famine, unemployment, political unrest, to seek better opportunities (Briggs, 2001). In response to these social and economic changes, Frank Parsons was the first to advocate for vocational guidance in 1909 and argued that career decisions should be made based on logical decisions in which the individual matched their understanding of themselves with their knowledge of occupations (Hambly & Bomford, 2019). From these ideas, Parsons founded the

Vocation Bureau of Boston and began the vocational guidance movement by establishing principles and methods for counselors to use in vocational counseling (Jones, 1994). These principles included the following.

- It is better to choose a vocation than merely to 'hunt a job.'
- No one should choose a vocation without careful self-analysis, thorough, honest, and under guidance.
- The youth should have a large survey of the field of vocations, and not simply drop into the convenient or accidental position.
- Expert advice, or the advice of men who have made a careful study of men and of vocations and of the conditions of success, must be better and safer for a young man than the absence of it.
- Putting it down on paper seems a simple matter, but it is one of supreme importance in this study. (Parsons, 1909, p. viii)

Most of the principles outlined here are still in use today. The principles provided the foundation for the matching model and trait-and-factor approaches (Niles & Harris-Bowlsbey, 2017). In the matching model, career counselors sought to match clients using clinical judgements to determine the clients' potential for success within a field through the use of psychographs, which was a graphic representation of an individual's abilities, education, and vocational skills compared to job characteristics (Niles & Harris-Bowlsbey, 2017). The next model, the trait-and-factor approach, used standardized tests or inventories to match an individual's traits and characteristics to occupation profiles, and in this model, career counselors collect and analyze data to determine appropriate occupations for clients (Niles & Harris-Bowlsbey, 2017). In both of these models, the career counselor was an active participant in determining occupational

choices, while the client was a passive participant that provided information to the counselor and followed counselor suggestions.

The Theory of Work Adjustment (TWA), which is a person-environment approach, evolved from these models in the 1960s. This theory focused on the correspondence between an individual's abilities and needs and the work environment; both the individual and the environment have needs and requirements that must be met for satisfaction to occur (Dawis et al., 1964). The level of satisfaction achieved between the individual and the work environment could be used to predict the individual's tenure in that work environment. Several instruments have been developed to measure satisfaction, needs, values, skills, abilities, satisfactoriness, and indexes of correspondence (Dawis, 2005). The support for this theory is moderate (Niles & Harris-Bowlsbey, 2017).

The next related theory to evolve was the Theory of Vocational Personalities in the work environment, which involves person-environment matching, by John Holland. This theory asserts that vocational interest is an aspect of an individual's personality, and individuals seek congruence between their personality and the vocational environment (Holland, 1997). Individuals complete interest inventories to assess which of the six interest typologies they are aligned, which are coded into three letters that designate the three most important typologies in descending order (Holland, 1997). This theory has a high level of research support (Niles & Harris-Bowlsbey, 2017).

Another prominent theory is Gottfredson's Theory of Circumspection and Compromise. This theory asserts that career choice and development is a process of elimination or circumspection in which an individual systematically eliminates career choices that are inadequate (Gottfredson, 1981, 2002). This differs from other theories in that careers are

eliminated rather than selected (Gottfredson, 2002). Gottfredson's model also includes four developmental stages of circumspection. Another aspect of this theory is compromise in which individual's compromise their occupational interests in response to external factors and constraints so eventual career choices are achievable (Gottfredson, 2002). However, the research support for this theory is low (Niles & Harris-Bowlsbey, 2017).

Finally, the most relevant theory for this study is Super's life-span, life-space approach to career development, which is a developmental approach that has a high degree of support in the literature (Niles & Harris-Bowlsbey, 2017). The theory is described in detail in the next section.

Career development is an ongoing process that begins in childhood and continues throughout an individual's life (Gottfredson, 1999; Super, 1990; Super et al., 1996). Super's life-span, life-space theory describes career development at different life stages and recognizes that career development is an intentional process (Super, 1990; Super et al., 1996).

Previous theories of childhood career development asserted that career development was an unintentional process in which children unknowingly make career decisions (Watson & McMahon, 2007) that could be based on informal experiences. Super (1990) argued that career development must be an intentional process that uses formal learning strategies to intentionally teach students about careers. Students participate in several stages of career development beginning with curiosity and exploration that lead to the development of interests (Super, 1990; Super et al., 1996). These interests are the foundation for further development and eventually lead to intentional problem solving and decision making about careers (Super, 1990; Super et al., 1996). This intentional process can allow students to connect their school learning to occupations and make better decisions regarding future careers (Super, 1990; Super et al., 1996).

The life-span aspect of Super's theory describes career development as a process that occurs throughout an individual's life rather than one fixed point that ends in young adulthood (Super, 1990; Super et al., 1996). Individuals progress through the stages of career development at different rates and manners. Life-span career development is an evolving process in which completing developmental tasks leads to career maturity and the ability to make career-related decisions (Super, 1990; Super et al., 1996).

Super's model of childhood career development stems from the assimilation and adaptation of several years of study and other research (Schultheiss & Stead, 2004). Super began developing his theory in 1942 by adopting Buehler's (1935) concept of life stages and applying them to careers. Buehler suggested that life is divided into five successive stages of self-determination based on biological variables, such as growth and reproduction, and goal-setting patterns (Buehler, 1935, 1964). Individuals work toward specific results throughout their lives that include fulfilment, happiness, or success, and these results are accomplished through goals. Each life stage is associated with specific goal setting patterns; Buehler found that childhood is a period of little to no goal setting, adolescence begins tentative self-determination, middle adulthood exhibits definite self-determination, later adulthood is a period of self-assessment and reflection, and old age is a period of reflection to determine fulfilment, resignation, or failure (Buehler, 1964). Super applied the life-stage and goal-setting concepts of Buehler to career development. He later adapted the ideas of longitudinal career changes and environmental influences on occupations of Miller and Form (1951) and the idea of occupational choice of Ginzberg et al. (1951) to create a vocational life stage model. Super's (1957) life stage model begins at birth with the growth stage and continues throughout an individual's life.

Initially, Super theorized a life-stage model that began at birth and continued to death (Super, 1957). The theory is a combination of stage development and social role theory (Super et al., 1996), which describes five life stages through which individuals progress. The life stages include growth, exploration, establishment, maintenance, and disengagement, and the stages are not static in that individuals progress through stages at specific ages. Instead, this is a flexible process where individuals may cycle through stages more than once during different periods of their lives.

The growth stage begins at birth and continues to around age 14 years and includes four career development tasks: thinking about the future, increasing autonomy, understanding the importance of school and work, and acquiring competent attitudes and habits (Super, 1957). The growth stage is divided into three substages: fantasy, ages 4-10 years, wherein needs are a priority, and role-playing is essential; interests, ages 11-12 years, when likes determine ambitions and behaviors; and capacity, ages 13-14 years, in which abilities become clear and are compared to potential job requirements (Super et al., 1996).

The next stage is exploration, which includes ages 14-25 years (Super, 1957). Most career development theories include career exploration as a foundational principle (Flum & Blustein, 2000; Gottfredson, 2002; Stumpf et al., 1983; Super, 1990). Career exploration is the process of collecting information relevant to a chosen career (Zikic & Klehe, 2006), which allows an individual to form career plans and goals, engage in a meaningful work-life, handle rapid changes, and manage life-stage transitions (Jiang et al., 2019).

Career exploration is a vital aspect of career development that is modified throughout life-stages to meet the needs of the changing individual and changing workplace (Super, 1990). The exploration stage is characterized by developing a realistic self-concept and exploring

occupations and job preferences. This stage is separated into three substages: tentative, ages 15-17 years, where tentative occupations are chosen based on interests, aptitudes, values, and needs); crystalizing vocational preferences, ages 18-21 years, when realistic occupational choices guide training or workforce selections, and self-concepts are implemented; and specifying a vocational preference, ages 22-24 years, wherein a seemingly appropriate occupation is attempted followed by commitment or beginning crystallization again (Super, 1990).

Establishment is the stage that encompasses the ages of 25-44 years (Super, 1957). By this time, most individuals have discovered their appropriate field of work and become stable in that occupation. Individuals support themselves and their families and develop a lifestyle consistent with their training and abilities. Career advancement becomes the focus so individuals can become financially stable. This stage is generally considered the most productive and creative years of the life-span (Super, 1957). Next is the maintenance stage, which begins around the age of 44 years, continues until around the age of 60 years, and is characterized by the individual maintaining and keeping their position. Individuals may become concerned about competition from younger workers that are in the establishment stage (Super, 1957). The final life-stage is decline, which is characterized by the reduction of physical or mental capacities, and individuals may begin to delegate tasks and choose more carefully the tasks they complete because retirement is imminent (Super, 1957).

Super (1963) then developed a self-concept theory of vocational development. The theory consisted of three aspects of self-concept development: formation, translation, and implementation. The first, formation, involves exploring, identifying key figures, role-playing, and reality testing during childhood (Schultheiss, 2008). Next, the self-concept is translated into occupational terms through identification, experience, and awareness of interests and aptitudes

(Schultheiss, 2008). The final aspect is the implementation of the self-concept, which is when an individual enters training or the workforce for an occupation chosen during late adolescence or early adulthood (Schultheiss, 2008).

Super (1990) later proposed a more detailed nine-dimensional model of childhood career development. The dimensions include curiosity, actions that lead to exploration; exploration, activities that examine information to meet the curiosity need; information, how to acquire occupational information; key figures, role models or helpful people that are personally meaningful; interest, development of interest in activities that have been successful; locus of control, an internal sense of control over one's life; time perspective, utilizing an understanding of the past, present, and future to plan for the future; self-concept, an awareness of the self in roles and situations; and planfulness, understanding the importance of planning (Super, 1990).

Many of the dimensions build upon previous ones. Curiosity in the elementary years is essential to the development of interests, to finding key figures, and to the feeling of age-appropriate independence, combined with the guidance of role models, self-esteem, time perspective, and planfulness (Super, 1990). Career development dimensions at the elementary and middle school ages are a way for students to develop career-ready skills and attitudes (Super, 1990). An individual that successfully navigates these dimensions can solve problems and make decisions about occupations.

Super's theory (1990) that included childhood career development, was the most comprehensive theory for that age group. Super's conceptualization of childhood career development received little empirical attention until Schultheiss and Stead (2004) developed the *Childhood Career Development Scale* to measure the nine dimensions of childhood career development. Nearly all of Super's dimensions were sound; the only exception is that the

dimensions of curiosity and exploration demonstrated little difference and were combined to form eight dimensions overall (Schultheiss & Stead, 2004). More recently the scale was validated among Italian middle school students (Ferrari et al., 2018), among South African primary school children (Stead & Schultheiss, 2010), and among Portuguese pre-adolescents (Silva et al., 2017).

Super's (1990) theory would support the purpose of this study and the investigation of the effect of the independent variable, career development curriculum, on career development progress. Students in the sixth-grade would generally be in the interest substage of the growth stage, in which students are using interests to guide aspirations and activities. Sixth-grade students would be nearing the end of the growth stage and would be expected to demonstrate growth in career development tasks and in the eight dimensions. The theory would support that students are beginning to demonstrate actions related to career maturity. The second independent variable, type of educational placement, should also be influenced by career development activities as students navigate through the dimensions. The theory would support that regardless of educational placement in general education or special education, all students should be demonstrating growth in career development progress.

Related Literature

Diversity of Career Research

Career research in four major journals—*Journal of Vocational Behavior*, *The Career Development Quarterly*, *Journal of Career Development*, and *Journal of Career Assessment*—can exceed several thousand papers a year. However, the diversity of career research has been limited in regard to several areas, including racial and ethnic minorities,

international groups, and multicultural identities. Several content analyses that encompass a forty-five-year period demonstrate the lack of research in these areas.

Racial and ethnic minority research

The population of the United States is becoming more culturally and ethnically diverse than it has been in previous decades. The racial composition is expected to change in the coming decades so that nearly one in three Americans will be a race other than White (Vespa et al., 2020). Immigration is also expected to result in a greater population increase than the natural increase, or surplus births over deaths, in the population (Vespa et al., 2020). Thus, changes in the workforce are expected to align with the projected changes in the population. The U.S. Bureau of Labor Statistics (Toossi, 2015) predicts changes in the labor force, which includes individuals that are working or looking for work, for the time period of 1994–2024. The projected changes indicate that the percentage of White workers will decrease, while the percentages of Blacks, Asians, and all other groups will increase. White workers are expected to decrease from 84.1% in 1994 to 77.1% by 2024; Black, Asian, and all other groups are expected to increase from 11.6%, 4.3%, and 2.1% in 1994 to 12.9%, 6.4%, and 3.6% in 2024, respectively (Toossi, 2015). Among ethnic groups, workers of Hispanic origin are expected to increase from 9.2% in 1994 to 18.3% in 2024 (Toossi, 2015). The percentage of individuals with disabilities has seen a statistically significant increase each year from 2008–2018, with an increase from 12.7% to 13.1% in 2008 and 2018, respectively (Houtenville, 2020). The employment to population ratio for people with disabilities was 37.5% in 2018, while the ratio for people without disabilities was 77.8% in 2018, indicating a 40.3% employment gap between those with disabilities and those without (Houtenville, 2020).

While these changes are expected to occur in the labor force in later years, American classrooms are already experiencing shifts in demographics. Since 1995, the percentage of White students has steadily decreased, while the percentages of other races and ethnicities have increased, except for Black students which increased and decreased. The distribution of White and Black students decreased from 64.8% and 16.8% in 1995 to 48.9% and 15.4% in 2015, respectively, while the distribution of Hispanics and Asians increased from 13.5% and 3.7% in 1995 to 25.9% and 5.3% in 2015, respectively (Hussar & Bailey, 2019). The percentage of students with disabilities has also increased from 8.3% in 1976 to 14.1% in 2019 (Hussar et al., 2020).

With the shift in demographics comes multiple worldviews and cultural plurality that influence career development. While these changes have been occurring over several decades, people of color, women, people with disabilities, and LGBTQ individuals experience barriers in career development (Niles & Harris-Bowlsbey, 2017). Culturally responsive career research could be used to help overcome these barriers through providing a foundation of understanding the key differences in these individuals career development.

Historically, the content of career research has been more focused on majority rather than minority groups (Garriott et al., 2017; Zhu et al., 2019). The overall percentage of multicultural research articles in four major career journals—*Journal of Vocational Behavior*, *The Career Development Quarterly*, *Journal of Career Development*, and *Journal of Career Assessment*—has varied from 3.9% in the 1980s (Flores et al., 2006) to 10.07% in the 2000s (Lee et al., 2017) and declined to 7.8% by 2015 (Lee et al., 2017). Thus, this declining trend demonstrates that although the proportion of people with color is increasing, the proportion of vocational research involving people of color is not. Additionally, the majority of vocational

research since 1969 has focused on people of color as a whole (4.3%) with very little focusing on specific groups such as African Americans (1.6%), Latino (0.7%), Asian Americans (0.4%), and Native Americans (0.2%) (Flores et al., 2019).

International groups

Interest in vocational guidance and research has its roots in the United States, beginning with Frank Parsons in 1909 (Hambly & Bomford, 2019). Thus, much of the research involving vocations, vocational psychology, and related disciplines that study vocational behaviors originate in the United States. Globalization of the economy has led to an increased research interest in these topics in other areas of the globe. Career research cannot always be generalized from one nation to another due to differences in cultures, educational systems, political and religious beliefs, and economic resources (Nilsson et al., 2007). Career research should be conducted by individual nations in response to these variations in order to generalize the findings to their specific population.

Since 1970, the proportion of international career research has been on the rise (Nilsson et al., 2007). Between 1970–2004, an increasing trend in international career articles was seen, with the total proportion of international career articles published at only 2.4%, in the four major career journals (Nilsson et al., 2007). However, a review of career development research published between 2005 and 2015 found that international research, wherein the majority of the participants were from outside the United States, comprised nearly one-quarter of all the research conducted during that time (Garriott et al., 2017), which supports that international research is on the rise. This trend demonstrates that the proportion of international career research articles is increasing over time, indicating that international research is gaining attention.

Specific to this study, studies conducted in Italy (Ferrari et al., 2018), South Africa (Stead & Schultheiss, 2010), and Portugal (Silva et al., 2017) have validated the career assessment used in this study outside of the United States. Thus, the career assessment used can be generalized to the several other countries in addition to the United States.

Multicultural identity research

Other areas have not seen a proportional increase. Multicultural identity encompasses a variety of groups including international, gender, socioeconomic status and social class, sexual orientation, gender identity, religion/spirituality, ability status, age, and immigration (Garriott et al., 2017). Over a 22-year period from 1990 to 2011 in the *Career Development Quarterly* demonstrated that the proportion of articles published that encompass at least one area of multicultural identity remained relatively stable at around 20% (Crockett et al., 2014). However, over the four major journals between 2005 and 2015, the proportion of articles involving multicultural identity increased to 53.51% (Garriott et al., 2017). The percentages of the multicultural identity categories included gender, 11.09%; social class, 5.92%; sexual orientation, 0.58%; gender identity, 0.53%; disability status, 0.95%; age, 8.14%; religion/spirituality, 2.11%; international, 22.45%; and immigration, 1.74% (Garriott et al., 2017).

Specific to this study, the proportion of studies that involve ability status, which would include students with disabilities, are relatively small compared to other vocational research and multicultural identity categories. The 11-year content analysis by Garriott and colleagues found that ability status was one of the least studied multicultural identity topics at 0.95% of articles from 2005 to 2015 (Garriott et al., 2017). Another content analysis of the *Career Development Quarterly* for 2013 demonstrated that ability status was also of limited research interest with only

12 total articles published (3.36%) (Sampson et al., 2014). These analyses demonstrate how little ability status is researched across major career journals and supports the need for additional studies in this area.

Childhood Career Development

American children typically have a career in mind for their future. Generally, their choices are gender-aligned with boys wanting to be professional athletes or police officers, and girls wanting to be nurses or teachers (Trice & Greer, 2017). Often, children also choose the professions of their parents (Schuette et al., 2012; Trice & Knapp, 1992). Children also rarely understand the educational requirements, job details, or pay of different careers (Trice & Greer, 2017).

The career development theorists of the mid-twentieth century minimized the importance of career development in children as career development was thought to be a process of matching careers to the self, and children knew little of themselves (Trice & Greer, 2017). The history of this era also did not lend itself to the study of career development in children. The end of the Great Depression and World War II caused vocational psychology to focus on the career needs of mature adults reentering the workforce rather than children or younger individuals beginning their careers.

The trend recently is that the majority of research published involves high school and college students with little attention paid to elementary and middle school students. A review of the literature published in the *Journal of Career Assessment* found that of 545 articles published between 1993 and 2011, a total of two articles involved elementary students and ten discussed middle school participants, while a total of 92 and 324 articles involved high school and college participants, respectively (Whiston et al., 2013). The difference between elementary and middle

school research and high school and college research is significant. High school and college students are closer to beginning their careers than younger students; thus, the research tends to focus on those individuals who more cognizant of their career choices.

The literature involving career development presumes that career development begins in early childhood (Gottfredson, 2002; Schultheiss & Stead, 2004; Super, 1990; Super et al., 1996). However, since the turn of the century, very few empirical studies have been conducted to investigate career development in childhood (Jiang et al., 2019; Oliveira et al., 2016; Schultheiss, 2008). More than half the empirical studies conducted since 2008 have involved adolescents above the age of 14 years old (Oliveira et al., 2016). Research published since 2000 demonstrates a lack of age-related or gender-related differences in the career development of children between the ages of 9 years and 13 years (Ferrari et al., 2015). Research also demonstrates that levels of career exploration have few differences as children age (Noack et al., 2010). The limited number of studies for children could be due to the immaturity of children and the fact that many would be unable to explore the relationship between the self and occupations in a meaningful way. However, children begin to develop interests and aptitudes when they are young that would be relevant for career development. Further study needs to be conducted in career development for students younger than 14 years old. The current study will evaluate career development in sixth-grade students who are nearing the end of the curiosity and interest stage.

Career Interventions

A multitude of studies have used interventions as the foundation for their research. The studies have been conducted using different age levels (elementary school, middle school, high school, and college), races (Latino, African American, and Caucasian), and genders. Some of the research has used group counseling interventions (Maree, 2019; Santilli et al., 2019), web-based

interventions (Cerrito et al., 2018; Nota et al., 2016), traditional curriculum (Cerrito et al., 2018; Gibbons et al., 2020), tailored curriculum (Clayton et al., 2018; Lindstrom et al., 2018; Lindstrom et al., 2020; McWhirter et al., 2019), and self-efficacy interventions (Deemer & Sharma, 2019; Falco & Summers, 2017; Park et al., 2020) to improve various aspects of career development. Overall, the literature shows that interventions are positive and assist various aspects of career development (Cerrito et al., 2018; Clayton et al., 2018; Falco & Summers, 2017; Lindstrom et al., 2018; Lindstrom et al., 2020; McWhirter et al., 2019; Oliver & Spokane, 1988; Spokane & Oliver, 1983).

Several meta-analyses have been conducted regarding career interventions, including Spokane and Oliver (1983); Oliver and Spokane (1988); Whiston, Sexton, and Lasoff (1998); Ryan (1999); Brown and Ryan Krane (2000); and Whiston, Li, Goodrich Mitts, and Wright (2017). After the meta-analysis conducted by Brown and Ryan Krane (2000), another one was not conducted until Whiston et al. in 2017.

Spokane and Oliver (1983) conducted a meta-analysis that included a total of 52 studies published between 1950 and 1979. Using the Glassian (delta) method, the effect size for vocational interventions was found to be 0.85. The meta-analysis found that the mean effect size for supportive group, structured workshop, or class interventions was 1.11, while individual treatments demonstrated an effect size of 0.87. Other types of interventions, which included computer-assisted, audio-taped, career education, self-decision training, and self-directing methods, had an average effect size of 0.34. Overall, the meta-analysis demonstrated that almost any type of intervention would have an effect and that vocational interventions are beneficial (Spokane & Oliver, 1983).

Oliver and Spokane (1988) extended upon the work of Spokane and Oliver (1983), with a meta-analysis that included 240 treatment-control comparisons with 7311 participants from 58 studies that were published between 1950 and 1982. The meta-analysis established the effect sizes for several types of interventions: individual counseling, individual test interpretation, group counseling, group test interpretation, workshop or structured group, classroom-based, computer-based, and counselor-free. Notably, classroom-based interventions demonstrated the largest effect size at 2.05, and these interventions required the greatest number of sessions (Oliver & Spokane, 1988). This indicates that classroom-based interventions are the most effective but require the most time. The meta-analysis also revealed that individual counseling had an effect size of 0.74 and required the least number of sessions (Oliver & Spokane, 1988), indicating that individual counseling was the most efficient. Finally, the meta-analysis also demonstrated that the intensity of interventions had an effect on the magnitude of the intervention outcome. Thus, the outcome of the intervention improved as the number of sessions or time increased, but the intervention method did not have as great of an impact.

Whiston et al. (1998) conducted a meta-analysis that extended on the work of Oliver and Spokane (1988) using works published between 1983 and 1995, with a total of 268 treatment-controls from 47 studies with 4660 participants. This meta-analysis weighted effect sizes by sample size and the inverse variance, differing from Spokane and Oliver (1983). Utilizing this method, rather than the Glassian (delta) method, provided an overall effect size that was smaller than Spokane and Oliver (1983), but the effect size was still significant (0.30). Further analysis by Whiston et al. (1998) revealed that the discrepancy between the two values was around half a standard deviation, and when the sample size was considered the difference was even less. The meta-analysis supported that career interventions are effective with a typical effect size between

0.40 and 0.65. The meta-analysis identified that individual counseling is the most efficient, while computer-based interventions are the most cost effective. Finally, Whiston et al. (1998) determined that treatment intensity does not predict effect sizes.

Ryan (1999) and later Brown and Ryan Krane (2000) conducted six separate meta-analyses that included 62 studies with 7725 participants and any relevant studies used by Oliver and Spokane (1988). This study revealed that the career interventions with four to five sessions were the most effective and the intervention method does not have a significant impact. Brown and Ryan Krane (2000) also used weighted mean effect sizes, similar to Whiston et al. (1998), and determined the effect size of career interventions to be 0.34.

The final meta-analysis was conducted by Whiston et al. in 2017, which was a replication of Brown and Ryan Krane (2000), that used 57 published and unpublished studies with 7364 participants, and the weighted mean effect size of career interventions was found to be 0.352. The meta-analysis also evaluated specific types of interventions and determined the effect size, including career-guided (.103), workbooks (0.421), self-reported inventory (0.445), counselor support (0.825), vocational exploration (0.723), and values clarification (0.522) (Whiston et al., 2017). This study also reported the effect sizes for specific modes of treatment, including individual counseling (0.771), individual test interpretation (0.265), group counseling (0.586), group test interpretation (0.464), workshops (0.307), classroom-based (0.619), computer alone (0.067), and computer plus counselor (0.149) (Whiston et al., 2017). Whiston et al. (2017) also demonstrated that longer interventions typically lead to larger effect sizes and that the number of sessions or hours is a statistically significant predictor of effect size. The average number of sessions for the interventions was 4.28, and the average amount of time spent was 9.98 hours

(Whiston et al., 2017). These findings are similar to previous findings and support the use of career interventions.

The previous meta-analyses encompass a large number of studies and participants over a period of time that extended from 1950 to 2015. Three meta-analyses, Whiston et al. (1998), Brown and Ryan Krane (2000) and Whiston et al. (2017), using similar methods to determine the effect size of career interventions, determined the weighted mean effect sizes to be 0.30, 0.34, and 0.352, respectively. The average overall effect size is small to medium. This indicates that individuals who participate in career interventions score about one-third of a standard deviation higher than individuals that do not participate in career interventions. Thus, the use of career interventions is beneficial and supported by at least sixty-five years of literature.

Special Education Transition

IDEA (2004) is a significant piece of federal legislation that requires schools provide the same educational opportunities to students with disabilities as students without disabilities and provides federal funding to support this requirement. IDEA was originally passed as the Education for All Handicapped Children Act in 1975 and has been reauthorized in 1986, 1990, 1997, and 2004. Each reauthorization added new provisions to the law and modified how students should be educated. IDEA details the following major components: the definition of children with disabilities, free appropriate public education, comprehensive evaluation, individualized education program, least restrictive environment, due process requirements, and transition requirements.

The goal of transition services is to better prepare students for post-secondary life, including employment, post-secondary education or training, and independent living. IDEA (2004) defines transition services as,

a coordinated set of activities for a child with a disability that is designed to be within a results-oriented process, that is focused on improving the academic and functional achievement of the child with a disability to facilitate the child's movement from school to post-school activities, including post-secondary education, vocational education, integrated employment (including supported employment), continuing and adult education, adult services, independent living, or community participation; is based on the individual child's needs, taking into account the child's strengths, preferences, and interests; and includes instruction, related services, community experiences, the development of employment and other post-school adult living objectives, and, when appropriate, acquisition of daily living skills and functional vocational evaluation. (34 CFR 300.43(a) 20 U.S.C 1401[34])

Federal guidelines require that IEP teams develop a transition plan in the first IEP that is in effect when the student reaches the age of 16. However, some states have lowered this requirement to the age of 14 (Morningstar & Clavenna-Deane, 2018).

The IEP is updated annually and must include measurable postsecondary goals based on age-appropriate transition assessments that are related to employment, education, training, and, if appropriate, independent living skills (Morgan & Riesen, 2016). Transition assessments are ongoing and are used to identify student strengths, interests, preferences, and needs; develop measurable post-secondary goals; identify transition services; identify interagency supports; and evaluate instruction that is already in place (Morningstar & Clavenna-Deane, 2018). Transition assessments can be formal or informal. Formal assessments use specific procedures that are standardized, which are norm- and criterion-referenced, valid, reliable, and have detailed administrations and scoring procedures, while informal assessments can be created by educators

and can be developed to evaluate more individualized areas (Morningstar & Clavenna-Deane, 2018). Measurable post-secondary goals reflect the transition assessments in that they are from the student's perspective and include the student's interests, strengths, preferences, and needs. Transition goals should be based on evidenced-based predictors of postschool success in employment, education, and independent living. The inclusion of evidence-based goals allows for a greater chance of student success.

The IEP must also include the necessary transition services, including courses of study, to facilitate the achievement of the goals (Morningstar & Clavenna-Deane, 2018). The course of study is outlined in a four- or five-year plan that aligns course-taking to post-secondary goals for education, training, and employment to ensure all proper courses are completed (Morningstar & Clavenna-Deane, 2018). Transition services can also include instruction, community experiences, related services, employment and post-secondary living objectives, and if applicable, daily living skills (Morningstar & Clavenna-Deane, 2018). The transition services should align to the post-secondary goals outlined in the IEP (Morgan & Riesen, 2016). Federal guidelines do not outline specific services, placements, or courses of study to be included in an IEP; instead, transition services are individualized to each student to meet their needs (Morgan & Riesen, 2016). For example, one student may require an internship or work study in a career of their choice, while another student may need to visit college campuses to tour programs and meet with student disability support services.

Overall, the literature around special education transition has grown rapidly over the past nearly 60 years. A social network analysis found that 517 articles in 205 journals have been published since 1957 (Chen, 2019). Few papers were published prior to the 1980s but steadily

increased over the past 30 years with more than half of the papers being published in between 2008 and 2015 (Chen, 2019). The main path analysis determined two main topics from a representative sample of 70 papers, which included curriculum and employment; from those topics, five more branches were determined, which included transition legislation embedded in curriculum, accountability of transition outcomes in both curriculum and employment, transdisciplinary teams, individualized transition programs, and self-determination in employment and curriculum (Chen, 2019).

The aspect of curriculum is focused on providing adequate curriculum for special education students to achieve positive transition outcomes in education, employment, and independent living, while the employment aspect of the literature encompasses various employment-related issues like work experiences while in secondary school, job preparation programs, and vocational programs (Chen, 2019).

The literature for special education transition mostly involves high school (116, 22.4%), college (46, 8.9%), and elementary school (38, 7.4%) (Chen, 2019). The lack of special education transition literature prior to high school can be attributed to the federal mandate that transition services should begin by the age of 16. However, some literature does support beginning transition services at earlier ages. Special education students that begin receiving transition services through their individualized education plan at the age of 14 years old rather than 16 years old were more likely to be employed after high school (Cimera et al., 2014).

Special Education and Postschool Outcomes

Students with disabilities receive several entitlements as part of their special education services. These include a free, appropriate public education in the least restrictive environment, the creation and implementation of an IEP, transition services, mandated protections, and a

relatively predictable learning environment (Morgan & Riesen, 2016). Students with disabilities eventually transition from school and special education to adulthood, where entitlements are limited and must be sought out by the individual. The role of school prior to transition is to provide students with the necessary skills and knowledge to successfully navigate adulthood.

For students with disabilities, the role of school is even more critical due to the challenges often associated with various disabilities. Students with disabilities typically encounter a wide range of challenges during transition, including increased frequency of anxiety and depression (Austin et al., 2018), elevated stress (Feldman et al., 2016), and heightened loneliness (Quan et al., 2014). Despite 30 years of legislation and practice, students with disabilities still have poorer postschool outcomes in postsecondary education, employment, and independent living than their peers (Harvey et al., 2019; Newman et al., 2011; Prince et al., 2017). Young adults with disabilities are less likely than their peers to have enrolled in postsecondary education, are less likely to have finished postsecondary education if began, earn less money per hour on average, are less likely to live independently, have lower rates of marriage, and are less likely to have a checking account or credit card (Acharya et al., 2017; Harvey et al., 2019; Newman et al., 2011; Prince et al., 2017; Wagner & Newman, 2015). Therefore, students with disabilities must receive effective services to facilitate the successful transition from student to adult.

Predictors that are related to family background, including parent occupation, income, and education (Showers & Kinsman, 2017), and student characteristics, including sex, race, type of disability (Wehman et al., 2015), can have impacts on postschool outcomes. However, these predictors are generally not in the control of the school or special education services.

A systematic review of secondary transition correlational literature from 1984 to 2009 was conducted to identify in-school predictors of postschool outcomes in education, employment, and independent living for students with disabilities. This review included 26,480 transition-age participants and found 16 in-school predictors (Test et al., 2009). Overall, four predictors demonstrated improved postsecondary success in all three postschool outcomes, including inclusion in general education, paid employment and work experience, independent living skills, and student support; seven predictors, including career awareness, interagency collaboration, occupational courses, self-advocacy/self-determination, social skills, transition program, and vocational education, demonstrated positive outcomes in employment and postsecondary education; and the remaining five predictors, including community experiences, exit exam requirements/high school diploma status, parental involvement, program of study, and work study, demonstrated positive outcomes in employment only (Test et al., 2009). Some predictors that demonstrated improved postsecondary education had moderate levels of evidence (i.e., inclusion in general education, paid employment/work experience, transition program, and vocational education), and other predictors exhibited potential levels of evidence (i.e., career awareness, interagency collaboration, occupational course, self-advocacy/self-determination, self-care/independent living, social skills, and student support) (Test et al., 2009). All 16 predictors exhibited improved postschool employment outcomes with four predictors exhibiting moderate levels of evidence (i.e., inclusion in general education, paid employment/work experience, vocational education, and work study), and the remaining predictors had probable levels of evidence (Test et al., 2009). For postschool independent living, two predictors demonstrated moderate levels of evidence (i.e., inclusion in general education and self-

care/independent living) and two exhibited probable levels of evidence (i.e., paid employment/work experience and student support) (Test et al., 2009).

A Delphi study was conducted to operationally define the 16 in-school predictors identified by Test et al. (2009) to facilitate the understanding of the terms for educators and policy-makers, and the study also included essential program characteristics for the terms (Rowe et al., 2014). The definitions were the result of the consensus between experts in the field, and the definitions and characteristics could be used by educators and policy-makers to successfully implement these practices. The four predictors of improved postsecondary education that had moderate levels of evidence were inclusion in general education, paid employment/work experience, transition program, and vocational education (Test et al., 2009). The first term was defined as, “Inclusion in general education requires students with disabilities to have access to general education curriculum and be engaged in regular education classes with peers without disabilities” (Rowe et al., 2014, p. 120). The characteristics of inclusion included providing teaching staff with professional development to adequately provide instruction to support students with disabilities, evaluating assessments to identify when changes should be made to meet students’ needs, using diverse instructional strategies to meet the needs of all student, and engaging students in active learning (Rowe et al., 2014). The second term was defined as, “Work experience is any activity that places the student in an authentic workplace and could include work sampling, job shadowing, internships, apprenticeships, and paid employment. Paid employment can include existing standard jobs in a company or organization or customized work assignments negotiated with the employer, but these activities always feature competitive pay (e.g., minimum wage) paid directly to the student by the employer” (Rowe et al., 2014, p. 118). The characteristics of paid work experience included providing opportunities for job shadowing,

work study, apprenticeships, and internships; providing instruction in soft skills; providing transportation; conducting job performance evaluations by students, staff, and the employer; and involving adult services in community-based work experiences (Rowe et al., 2014). The third term was defined as, “A transition program prepares students to move from secondary settings (e.g., middle school/high school) to adult life, utilizing comprehensive transition planning and education that creates individualized opportunities, services, and supports to help students achieve their post-school goals in education/training, employment, and independent living” (Rowe et al., 2014, p. 123). The characteristics of a transition program included providing individualized transition-focused curriculum and instruction based on post-secondary goals, providing integrated instruction in all areas of independent living, using strength-based assessments to assist with post-secondary planning, and using interagency collaboration to provide coordinated transition services. The final term was defined as, “Vocational education is a sequence of courses that prepares students for a specific job or career at various levels from trade or craft positions to technical, business, or professional careers” (Rowe et al., 2014, p. 119). The characteristics of vocational education included providing career counseling and guidance to assists students in career planning, providing accommodations and supports in career/technical education to meet student needs, providing academic and vocational courses designed to improve skills and abilities needed for employment, and providing in-school and community-based experiences in career pathways based on the local labor market (Rowe et al., 2014).

Haber et al. (2016) expanded upon the Delphi study by conducting a meta-analysis for the predictors determined by Test et al. (2009). The meta-analysis analyzed 35 sources and 27 samples (N = 16,957) published from January 1984 through May 2010 (Haber et al., 2016). The meta-analysis supported positive relationships between the predictors and outcomes (e.g.,

vocational education, transition programs, inclusion, and paid work experience). Most of the high frequency, categories with five or more effects, predictors identified by Test et al. (2009) were statistically significant (*i.e.*, transition program, vocational education, exit exams, inclusion, and paid employment) with a small effect size ($r = .1$ to $.3$) (Haber et al., 2016). A few low frequency predictors were significant, including career awareness ($r = .56$), social skills ($r = .22$), and parental involvement ($r = .26$) (Haber et al., 2016). Transition programs, vocational education, inclusion, and paid work were found to have positive relationships with education and productivity, employment, education and employment, and employment, respectively (Haber et al., 2016). The study also found that some areas of significance not emphasized by Test et al. (2009), including student-planning and parent involvement.

The initial research of Test et al. (2009) was further expanded by Mazzotti et al. (2015) to include publications written between 2009 and 2014. The findings provided additional support to nine predictors (*i.e.*, career awareness, exit exam/high school diploma status, inclusion in general education, paid employment/work experience, parent involvement, self-care/independent living skills, social skills, vocational education, and work study), but the levels of evidence did not change (Mazzotti et al., 2015). The remaining six predictors did not receive additional support but still demonstrated positive effects (Mazzotti et al., 2015). This review also resulted in the discovery of four additional predictors of positive school outcomes, including parent expectations, youth autonomy, goal setting, and travel skills (Mazzotti et al., 2015). None of the four new predictors demonstrate impacts on all postschool outcomes. Parent expectations demonstrated potential levels of evidence for postschool education and employment outcomes; goal setting exhibited emerging levels of evidence for education and employment outcomes; youth autonomy showed a moderate level of evidence for education outcomes and a potential

level of evidence for employment outcomes; and travel skills demonstrated emerging levels of evidence for employment outcomes (Mazzotti et al., 2015).

The current study will utilize a career development program, *Roads to Success*, that consists of five lessons to help students determine their interests, career options, and how to create a plan for their chosen future career. This program is related to the predictors of career awareness and occupational courses. Career awareness has been operationally defined as “learning about opportunities, education, and skills needed in various occupational pathways to choose a career that matches one’s strengths and interests” (Rowe et al., 2014, p. 118), and occupational courses are “individual courses that support career awareness, allow or enable students to explore various career pathways, develop occupational specific skills through instruction, and experiences focused on their desired employment goals” (Rowe et al., 2014, p. 119). Both of these predictors demonstrate potential levels of evidence for positive outcomes in postschool employment and education (Mazzotti et al., 2015; Test et al., 2009). This study would contribute more evidence to support these predictors.

Summary

The life-span, life-space theory of career development has seen many iterations since its creation. This theory is one of the most comprehensive childhood career development theories, and it has been used as the theoretical framework for many studies. The theory encompasses five different stages that an individual can experience throughout their life. Career development is a dynamic and fluid process; the stages do not occur linearly, and stages can be revisited as circumstances change. The most important aspect of this study is the nine-dimensional model of childhood career development, which includes curiosity, exploration, information, key figures, interest, locus of control, time perspective, self-concept, and planfulness (Super, 1990).

Research surrounding career development utilizes many different theoretical frameworks. Career development lacks a central or dominant theory as a foundation to guide research. Instead, researchers choose from a great number of theories. Overall, many of the theories agree that career development is a lifelong developmental process that changes as individuals age.

Career research conducted to include multicultural and minority groups has steadily been on the rise over the past two decades. Four major career journals nearly doubled the number of articles published that involve multicultural or minority groups between 2005 and 2015. However, some minority groups are not receiving the same growth as demonstrated overall. These identity groups include ability status, sexual orientation, and gender identity (Garriott et al., 2017). Also, the predominant methodology for career development research is quantitative. Little research has been conducted that include qualitative or mixed-methods.

The literature involving childhood career development and special education students is limited. Career development generally focuses on adolescents in high school preparing for postsecondary life. Older students engage in more occupational exploration than younger students (Noack et al., 2010), and this is reflected in the literature by a greater number of studies conducted with adolescents than children.

Transition research is mostly limited to older adolescents because federal mandates require the services to begin by the age of 16 years. Little attention is paid to transition planning during childhood since it is not required. Some research, however, has demonstrated positive outcomes for students who began transition planning two years earlier. Career assessment is a meaningful way to evaluate career development to inform transition planning. Qualitative and longitudinal studies are limited in scope, and the rigor of qualitative studies is questionable.

The support to use career development interventions is overwhelming. Significant and positive results have been demonstrated for several types of interventions, including web-based curriculum, traditional curriculum, self-efficacy curriculum, and group counseling. The specific type of intervention does not seem to impact the results; only the presence or absence of an intervention seems to have an impact. Therefore, the use of an intervention in this study is supported through the literature.

The current study seeks to fill some of the gaps found in the literature by evaluating participants that are children (i.e., sixth-grade students) with disabilities. Career development for younger students with disabilities is limited when compared to studies for adolescent students without disabilities. The same is true for comparing children to adolescents; a much broader base of research can be found for older students. The study will add information to the literature to inform choices regarding career development for younger students with disabilities.

CHAPTER THREE: METHODS

Overview

The purpose of this quantitative study was to compare the effect of a career development intervention between sixth-grade general education and special education students. This chapter will introduce the methodology that guided the study. The chapter also includes information about the research design, research questions, hypotheses, participants and setting, instrumentation, data collection procedures, and data analysis.

Design

This study utilized a quasi-experimental nonequivalent control-group design. Quasi-experimental nonequivalent control group designs are one of the most common designs used in educational research (Gall et al., 2007; Rovai et al., 2012). The essential characteristics of this design were that participants were within naturally occurring groups and manipulation of an independent variable is possible (Gall et al., 2007; Rovai et al., 2012).

The first independent variable, career development curriculum, contained two levels: presence or absence of career development curriculum. Through this curriculum, students investigated careers and determined a potential future career path for themselves. The second independent variable was type of educational placement and had two levels, general education or special education. A student was considered to be in the general education placement if he or she had not been diagnosed with a learning or behavioral disability, and these students did not have an IEP (Frey, 2018; Wedell, 2017). A student was in special education placement if the student had been diagnosed with a learning or behavioral disability that required special educational provisions be made for the student in an IEP (Frey, 2018; Wedell, 2017). The classrooms in which this study occurred were inclusion classrooms, indicating that special education and

general education students were in the same setting and receiving the same curriculum (Kirby & Kirby, 2017).

The dependent variable was career development progress as measured by the subscale scores on the *Childhood Career Development Scale* (i.e., planning, self-concept, information, interests, locus of control, curiosity/exploration, key figures, and time perspective) (Ferrari et al., 2018; Schultheiss & Stead, 2004; Silva et al., 2017; Stead & Schultheiss, 2004, 2010). Career development progress was defined as the process in which children relate potential careers to themselves while eliminating undesirable career choices or compromising on choices that are less favored but more attainable (Gottfredson, 2002; Schultheiss & Stead, 2004). The covariate was preexisting levels of career development progress prior to the intervention as measured by the *Childhood Career Development Scale*.

The treatment group of this study included sixth-grade students who participated in the career development curriculum during advisory class periods. The control group in this study included sixth-grade students in schools that did not receive any level of intervention (Gall et al., 2007).

Research Question

RQ: Is there a difference between the mean career development progress scores of sixth-grade students who participate in a career development curriculum and those who do not participate, based on type of educational placement (general education or special education) while controlling for pretest scores?

Hypotheses

H₀₁: There is no significant difference between the mean career development progress scores of sixth-grade students who participate in a career development curriculum and those who do not participate in the curriculum while controlling for pretest scores.

H₀₂: There is no significant difference between the mean career development progress scores of general education and special education sixth-grade students while controlling for pretest scores.

H₀₃: There is no significant interaction between the mean career development progress scores of general education and special education sixth-grade students who participate in a career development curriculum and those who do not participate in the curriculum while controlling for pretest scores.

Participants and Setting

The participants in this quasi-experimental nonequivalent control-group study were sixth-grade students located in six school districts in an eastern state during the 2021-2022 school year. School districts in this state are divided by county, and some of the treatment schools were found in districts with only one middle school. Therefore, the comparison schools were located within the same geographic area as the treatment schools, and the participants were chosen by a convenience sample. School District I, which included School A, was located in a low-income, rural area of the central portion of the state; School District II, which included School B, was in a low-income rural area of the central portion of the state; School District III, which included School C, was located a rural area in the northcentral portion of the state; School District IV, which included School D, was located in a low-income, rural area of the central portion of the state; School District V, which included School E, was located in a low-income, rural area of the

northcentral portion of the state; and School District VI, which included School F, was located in a low-income, rural area of the northwestern portion of the state. Demographic data for each district can be found in *Table 1*. Demographic data for each school can be found in *Table 2*.

Table 1

Demographic information for study districts.

School District	Population estimate (2018)	Percent minority	Percent of persons in poverty	Median household income (in dollars)	Percent in the civilian labor force (16+)	Percent of high school graduates	Percent Bachelor's degree or higher	Population per square mile
I	6,176	2.0	20.0	38,668	46.7	82.8	12.2	27.3
II	13,898	2.2	20.7	38,895	44.8	81.3	13.0	30.9
III	8,383	1.9	16.4	44,328	47.1	83.6	11.8	23.1
IV	5,063	2.3	18.0	45,315	49.6	83.1	10.6	24.6
V	7,735	4.5	17.0	51,300	44.3	82.1	16.6	25.7
VI	14,170	2.2	15.9	44,539	46.5	86.6	12.6	46.3

Note: Adapted from the United States Census Bureau (2021a, 2021b, 2021c, 2021d, 2021e, 2021f).

Table 2

Demographic information for study schools.

School	School District	Total enrollment	Grades	Male	Female	Percent Low SES	Percent Minority	Percent Special Education	Percent Mathematics Proficiency	Percent Reading Proficiency
A	I	524	5-12	264	260	53	2	17	11	34
B	II	335	5-8	189	146	56	5	19	10	31
C	III	352	5-8	179	173	52	3	21	24	36
D	IV	292	5-8	165	127	53	2	27	36	40
E	V	334	5-8	185	149	43	6	14	24	45
F	VI	780	PK-8	415	365	62	4	22	29	31

Note: Adapted from ZOOMWV (West Virginia Department of Education, 2022).

A convenience sample of students was selected from six different middle schools in six districts. The naturally occurring groups of sixth-grade students were chosen because the instrument used is validated for grades four through six, and most of the middle schools begin with sixth-grade. For this study, the number of participants sampled was 443, which was greater than the minimum recommended sampling to allow for a medium effect size. According to Gall

and colleagues (2007), a minimum of 166 students is required when assuming a medium effect size with a statistical power of 0.7 at the 0.05 alpha level. To appropriately compare special education to general education students, the number of special education students in the study must have been equal to at least 83 students. The average percentage of special education students in the participating schools was 18.7% (West Virginia Department of Education, 2018). Therefore, to maintain this percentage, the total sample size was required to be at least 443 students. All sixth-grade students were asked to participate in the study so as not to disrupt the classroom or schedule of the students. Advisory class periods were used for the treatment and control because these class periods were when career development typically occurs, and these classes were divided by grade level. Using the advisory class periods also limited the number of disruptions to the typical school day. Typically, career development and exploration occurred in the advisory period because it is mandated by educational policy of this eastern state, the career and college readiness standards and dispositions for student success for grades K-12 (West Virginia Department of Education, 2017). Teachers were expected to deliver instruction that met the career and college readiness standards during the advisory period and embedded throughout regular classroom instruction. The state policy regarding career development and exploration outlines the attitudes, knowledge, skills, and dispositions all students need to be prepared for a wide range of post-secondary opportunities (West Virginia Department of Education, 2017). All sixth-grade students that received parental consent and provided assent were included in the study. Allowing all sixth-grade students to participate limited the disruption to classes and schedules so teachers would not be required to find alternative assignments or placements while the instrument was completed.

The participants were 279 sixth-grade students (151 boys and 128 girls) from an eastern state, with a mean age of 11.8 years. The treatment and control groups were randomly assigned using Microsoft Excel. The schools were placed in a spreadsheet, and the RANK and ROUNDUP formulas were used to randomly assign the schools to the control and treatment groups. The treatment group included 143 total sixth-grade students (77 boys and 66 girls, mean age 11.8), and the control group included 136 total sixth-grade students (74 boys and 62 girls, mean age 11.8). *Table 3* lists information for the sixth-grade students at each school.

Table 3

Demographic information for sixth-grade students at each school.

School	Total Sixth-grade enrollment	Total Percent Special Education	Number of Participants	Number of Male Participants	Number of Female Participants	Number of Special Education Participants
A	57	17	45	25	20	7
B	84	19	17	8	9	11
C	86	21	74	41	33	17
D	74	27	55	29	26	16
E	66	14	52	33	19	11
F	68	22	36	15	21	11

Note: Adapted from ZOOMWV (West Virginia Department of Education, 2022).

The groups were randomly assigned, and the treatment groups were School D, School E, and School F. The comparison groups were School A, School B, and School C. All schools were within their own separate district. Students in all schools received the same level of mandated career and college readiness standards that are typical in the classroom. The treatment schools participated in the career development curriculum in addition to the career and college readiness standards.

Student special education placement were a convenience sample of naturally occurring groups. To be considered a special education placement student, the student was identified as receiving special education services and had a current IEP. Student general education placement

(students without an IEP) were also a convenience sample of naturally occurring groups. To be considered a general education student, the student could not have been identified as receiving special education services or having an IEP.

The *Childhood Career Development Scale* was given as a pretest and posttest during the 2021-2022 school year. The instrument was conducted in advisory classes for both treatment and comparison schools and one week after the last module of the intervention was complete for treatment schools and six weeks after the pre-test for the comparison schools, respectively. In treatment schools, the pretest was given in the week prior to treatment, the treatment lasted for five weeks, and the posttest was given one week after the treatment for a total of seven weeks. In control schools, the pretest was given, and six weeks later, the posttest was given. Advisory teachers were trained in conducting the *Childhood Career Development Scale* during professional development, and the training was reviewed before the posttest once the curriculum was completed to maintain standardization across multiple classes and the time period.

Instrumentation

This study used the *Childhood Career Development Scale* as a pretest and posttest to measure the career development progress of sixth-grade students (Schultheiss & Stead, 2004). The purpose of this instrument was to measure career development progress in fourth- through sixth-grade students (Schultheiss & Stead, 2004). The *Childhood Career Development Scale* was created because few instruments that measure childhood career development have been developed to investigate childhood career development (Wood & Kaszubowski, 2008).

The scale was created by Schultheiss and Stead (2004) and is based on Super's (1990) nine dimensions of childhood career development. The scale was constructed through two studies. The authors created items to use on the instrument by reviewing the literature to reflect

the nine dimensions. The items were evaluated by ten experts in the field of vocational psychology and by eight raters in counseling psychology. The initial scale consisted of 89 items that were modified after the first study. The results of the first study were 38 of the original 89 items remained the same, 19 items were revised, and 17 new items were created. The new 74-item scale was used in the second study. The study utilized a principal component analysis with varimax for eight components, which resulted in 39% of the total variance. To remain on the scale, the items were set at .40, which resulted in 52 items.

The final instrument was a 52-item, 5-point Likert scale that assessed the career development of children in fourth- through sixth-grade across eight dimensions. The 5-point Likert scale ranges from strongly agree to strongly disagree, and the following choices are available: strongly agree (5), agree (4), uncertain (3), disagree (2), and strongly disagree (1). During the development of the scale, curiosity and exploration items formed one factor instead of two; therefore, Super's (1990) nine dimensions are expressed as eight subscales. *Table 4* includes details for the eight subscales.

Table 4

Childhood Career Development Scale subscale information.

Subscale	Example Question	Total items	Minimum Score	Maximum Score	Cronbach's Alpha
Information	I want to get more information about jobs.	6	6	30	.72
Curiosity/ Exploration	I am curious about things I learn in school.	7	7	35	.66
Interests	I know what subjects I like in school.	6	6	30	.68
Locus of Control	I have control over the things I do.	7	7	35	.79
Key Figures	I want to do the same job as someone I look up to.	5	5	25	.68
Time perspective	I think a lot about what I will be when I grow up.	4	4	20	.69
Planning	It is important to plan for the future.	11	11	55	.84
Self-concept	I know what type of person I am.	6	6	30	.84

Note: Adapted from Schultheiss and Stead, 2004.

The *Childhood Career Development Scale* has Cronbach alpha scores ranging from .66 to .84, and a principal component analysis with varimax rotation showed eight dimensions (Schultheiss & Stead, 2004; Wood & Kaszubowski, 2008). The *Childhood Career Development Scale* does not provide the Cronbach alpha score for a composite score because only the subscales are used. Permission to use the *Childhood Career Development Scale* was granted by the authors (see Appendix H), but the authors requested that the *Childhood Career Development Scale* and the scoring key not be shared publicly.

The *Childhood Career Development Scale* is a self-assessment that can be administered individually or in groups, taking approximately ten to fifteen minutes to complete. Items are scored on a five-point scale with no items reversed scored. Teachers were trained in *Childhood Career Development Scale* procedures to administer the scale and to score it. A scoring key was used to assign points to each question and designate the corresponding subscale, and the points were added to create a score for each subscale. The authors of the scale do not use a composite score, but instead include a score for each of the subscales. The scale is not validated for a composite score, therefore only the individual subscales have been validated (Schultheiss & Stead, 2004)

The completed scale has been used in several studies (Cerrito et al., 2018; Ferrari et al., 2018; Ginevra & Nota, 2018; Schultheiss & Stead, 2004; Stead & Schultheiss, 2004, 2010; Wood & Kaszubowski, 2008). The study by Ginevra and Nota (2018) was the most similar to this research. The study utilized an experimental design to investigate the effect of a structured ten-unit training with a pretest and posttest on career adaptability in late elementary school students using the *Childhood Career Development Scale*. The data was analyzed using a multivariate analysis of variance for each subscale. The results showed that a career study

intervention could increase some career adaptability resources in children, and the authors suggest career development in childhood can be further enhanced in early and late adolescence (Ginevra & Nota, 2018).

Another similar study compared web-based and traditional career interventions with elementary students (Cerrito et al., 2018). This study investigated the career development progress of fourth- and fifth-grade students using a pretest-posttest comparison group design. Students participated in either web-based or traditional career interventions, and the data was collected from the *Childhood Career Development Scale*. The data was analyzed for each subscale using repeated measures ANOVAs. The results showed significant interactions between group and time for curiosity/exploration and locus of control, indicating that career interventions can positively impact career development progress (Cerrito et al., 2018).

Procedures

Before the study could begin, the researcher obtained permission from the building principals for each of the six schools and superintendents, when requested by the building principal. The purpose of the study and any risks and benefits were explained to the administrative personnel and sixth-grade advisory teachers. See *Appendices A* and *B* for permission requests. The researcher also obtained permission from the university institutional review board to conduct the study.

An informed consent form was sent home with sixth-grade students that explained the study and invited the students to participate in the study. The consent included the purpose of the study, procedures, and how the information would be kept confidential. The consent also explained the procedure to opt-out of the study at any time. Students in the treatment and control schools already participated in advisory coursework. Therefore, an opt-out method was utilized

for obtaining consent. Parents were informed if they or their student wished not to have their information included in the study, they could opt-out of the research aspect. See *Appendix C* for parental consent form.

Teachers were provided a script to read that included directions for students to complete the survey. See *Appendix D* for the teacher script and instructions. All students who had parental consent and assented to participate were included in the study. The participants were administered the pretest *Childhood Career Development Scale* during the advisory class period. Teachers were contacted to schedule an agreeable time to administer the survey. Students completed the posttest *Childhood Career Development Scale* after the curriculum was completed. Teachers received training to review how to administer the survey. The survey was provided electronically for teachers to print for their students. During each administration, students provided their initials and last four numbers of their student identification number so the administrations could be compared. This method maintained confidentiality and assisted with data entry and analysis. Students also completed additional demographic information questions that included their age, gender, and educational placement (general or special education).

The students in the treatment schools participated in the career development lessons during the advisory class period. The five lessons were derived from *Roads to Success*, a career development curriculum that is based on career development theory, including the works of Super (1990, 1996) and Holland (1997), and aligns with the National Career Development Guidelines and the National Standards for School Counseling Programs (*Roads to Success*, 2010). The career development curriculum was divided in to five lessons, and each lesson required approximately 45 minutes to complete. The curriculum was designed to be flexible to allow the lessons to be taught during different time spans such as advisory periods, classroom

periods, block schedules, or extracurricular periods. Therefore, the lessons could be divided over several class periods if the class time allotted was less than the lesson required. Schools completed at least one lesson per week, and the number of sessions was determined for each school depending on how long the advisory period lasted. For example, a school with a thirty-minute advisory period required two sessions per week, while a school with a sixty-minute period required one session per week. Overall, the entire curriculum was completed in five weeks, with two additional weeks for the *Childhood Career Development Scale* pre-test and post-test. *Table 5* provides the essential question explored by each lesson.

Table 5

Roads to Success: Careers essential questions.

Module	Purpose
1	How can taking a career interest inventory help me discover new jobs that I might enjoy?
2	What are the job responsibilities for my selected careers?
3	What can you learn about a career from the working conditions and people in that job?
4	What education do my selected careers require, and why is it important to know this?
5	Which of the careers explored (by me or my team) best fits my interests and skills and why?

Note: Adapted from *Roads to Success* (2010).

The participants in the control group did not participate in the career development curriculum that the treatment schools completed. Instead, the comparison schools participated in the career and college readiness standards that are already a requirement in advisory classes at all schools in the eastern state, (West Virginia Department of Education, 2017). The career and college readiness standards include standards and dispositions that focus on academic, career, social, and emotional development (West Virginia Department of Education, 2017). The career and college readiness standards do not include a specific curriculum, but instead, describe standards that should be taught during advisory class periods. *Table 6* provides the career and

college readiness standards for sixth- through eighth-grade students that are specific to career development.

Table 6

Career and college readiness standards for career development.

Standard cluster	Standard
Develop career awareness	Explore how personal abilities skills, interest, and values relate to the workplace.
	Use a variety of resources and methods to explore career options.
	Examine specific job requirements and opportunities for progressions of career levels from entry level to advanced leadership and develop a personal career growth vision.
Develop career and life plan	Explore career options in relation to selecting a career cluster.
	Describe lifestyle dreams and possible career options and evaluate the likelihood of attaining goals.
Careers and life success	Begin to develop a possible career/life plan that explores educational credentials, skills, and career progressions.
	Explore how identified career choices impact lifestyles and opportunities.
	Practice expected workplace dispositions and behaviors.
Prepare for post-secondary success	Explore the need for lifelong learning as situations and responsibilities change, requiring new knowledge and skills.
	Identify how performance and course selections in middle school impacts high school course readiness and post-secondary choices.
	Explore requirements for success in a variety of post-secondary options and for securing scholarships
Plan to achieve goals	Analyze how personal choices negatively or positively impact high school and post-secondary options and preparedness for success.
	Use a variety of assessments and inventories to identify skills, interest and aptitudes for post-secondary planning.
	Use personal data and goals to establish challenging academic, personal, and post-secondary plans.
	Explore eligibility requirements and funding opportunities for various post-secondary programs.

Note: Standards were created by the West Virginia Department of Education (2017)

Comparing the treatment schools to the comparison schools allowed the researcher to determine if the dedicated career development lessons impacted career development in sixth-grade special education students differently. All participants were administered the *Childhood Career Development Scale* before and after the intervention time period, and participants were

divided by school. Scores were provided for each subscale.

Data Analysis

A quasi-experimental, non-equivalent control groups, pre-test-posttest factorial design implementing a two-way ANCOVA data analysis was proposed for this research. Null hypotheses one and three indicated the necessity to examine the mean levels of career development progress between two groups that differed on levels of the independent variable. Hypothesis two indicated the necessity to examine whether the type of educational placement (*i.e.*, general education or special education) influenced the dependent variable while the independent variable was present. The ANCOVA was selected for the statistical analysis in order to neutralize pre-existing levels of the dependent variable, career development progress, prior to the study. In educational studies, one of the most common analyses used for a pretest-posttest design is the two-way ANCOVA (Warner, 2013). An ANCOVA assesses whether the means of multiple groups are statistically different from each other after controlling for the effects of one or more variables (Rovai et al., 2012). A two-way ANCOVA analysis is appropriate when comparing a continuous dependent variable against two independent, categorical variables (Rovai et al., 2012; Warner, 2013). The categorical, independent variables in this study were type of curriculum (career-development curriculum and non-career-development curriculum) and educational placement (general or special education). Career development progress, a continuous variable, served as the dependent variable, and the covariate was the preexisting level of career development progress prior to the treatment phase of the study.

Descriptive statistics was computed with SPSS 27 using data collected from the *Childhood Career Development Scale*. These statistics included the number of participants in all

groups of the independent variables. The mean scores and standard deviations on each subscale of the instrument were evaluated for all groups of the independent variables.

The ANCOVA has several assumptions that must be evaluated using preliminary data screening (Green & Salkind, 2017; Rovai et al., 2012; Warner, 2013). The ANCOVA requires data screening for each group before and after treatment to evaluate the data for potential irregularities and extreme outliers, and extreme outliers are examined using a box-and-whiskers plot (Green & Salkind, 2017; Rovai et al., 2012; Warner, 2013). The assumptions of normality and are evaluated using Kolmogorov-Smirnov tests ($N \geq 50$) and Levene's test, respectively (Green & Salkind, 2017). The assumption of linearity and bivariate normal distribution are examined using a series of scatter plots between the pre-test variable and post-test variable for each group, and the classic "cigar shape" is sought (Green & Salkind, 2017). The assumption of homogeneity of slopes is evaluated by using tests of between-subjects effects (Green & Salkind, 2017). The significance level for the ANVOCA is set at $\alpha = .05$. Therefore, null hypotheses are rejected at $p < .05$. (Gall et al., 2007; Warner, 2013).

Effect size is measured as part of the ANCOVA using SPSS 27 and is expressed as partial Eta squared. This study used the effect sizes outlined by Warner (2013), which are the following: small effect when η^2 is less than .010, a medium effect when η^2 is between .022 and .059, a large effect when η^2 is between .083 and .138, and a very large effect when η^2 is above .168.

CHAPTER FOUR: FINDINGS

Overview

In this chapter, the data collection, data collection issues, descriptive statistics, assumption testing, and analysis are discussed. The data collection issues led to a change in the statistical test, as discussed below. Data screening for the two-way multivariate analysis of variance (MANOVA) included histograms to evaluate normality and box and whiskers to examine outliers. The assumptions of normality, linearity, multicollinearity, and homogeneity were assessed. The significance of the MANOVA was determined by evaluating Pillai's trace. The results of the statistical testing are presented, and the research question and null hypotheses are evaluated.

Data Collection

Once data was collected, several adjustments to the research question, null hypotheses, and statistical analysis were needed. After proposal defense, the researcher contacted all schools with sixth-grade students in 41 school districts, yet only six schools agreed to participate. Also, based on conversations with the principals of the school that did participate, the total sample size was estimated at 447 students, and of that total, 86 students had an IEP. Based on these estimates, the researcher had planned for an ANCOVA analysis. However, once all data was received, the total number of participants was 279 students with 73 of those with IEPs. Instead of schools providing the survey to the entire grade as instructed, three schools only conducted the survey with a portion of the entire class. The staff in the schools misunderstood the instructions and assumed the term class referred to only the students taking a specific class rather than the sixth-grade class as a whole. Further, several schools did not administer the pretest as instructed,

reducing the opportunity for the ANCOVA analysis, utilizing the pretest as a covariate. This reduced the number of participants significantly.

Schools were randomly assigned to either the treatment or control groups. Based on these assignments, principals and participating staff were trained in the steps necessary to complete the study. However, the researcher was unable to enter the schools physically due to restrictions associated with COVID-19 protocols. Thus, all training and discussions occurred virtually or over the phone. Staff received training, all materials to complete the study, and a suggested timeline for implementation all via phone or e-conferencing. The suggested timeline avoided typically busy times of the school year, such as spring break, the Easter holiday, and annual summative assessments. The specific dates outlined by the timeline were not required; however, the pre-survey and post-survey were intended to have been conducted at least six weeks apart.

Contact was maintained between the researcher and classroom teachers throughout the entire study, and check-ins were completed at least once weekly. Any questions or requests for clarification were answered the same day. Three schools followed all instructions correctly and completed the study in a timely manner. The other three schools, however, struggled to complete the instructions offered by the researcher. School E completed all aspects of the study but needed more time than the others to complete both surveys. School E also began the study later than the other schools, and the principal did not provide the surveys to the researcher until nearly a month after the surveys had been completed. The principal explained that they were very busy with professional duties and personal issues so they were unable to go to a post office in a timely manner. School B was the most difficult of the schools with which to maintain contact, and the researcher attempted contact weekly but often did not reach the principal. Toward the end of the study period, contact was finally made. However, the principal stated there had not yet been time

to conduct the pre- or post-surveys due to holiday breaks and annual summative assessments. The principal shared that only one survey would be possible to complete and that was all the researcher received from School B. Finally, School D had the most difficulty in completing the study. The principal agreed to participate and shared the information with the participating teachers. The researcher was not provided teacher contact information and was only able to contact the principal. The principal misunderstood the purpose of the pre-survey and only provided teachers with the demographics page of the survey, even though the researcher clearly explained the instructions and provided the full survey. Then, a few weeks after the study began, the principal suddenly retired. The researcher was not made aware of this change until a teacher made contact. The researcher discovered the misunderstanding with the pre-survey after the curriculum had been taught and the post-survey had been completed. Thus, only survey data after the curriculum was completed could be collected.

In summary, the number of total participants was reduced due to three schools not following correct procedures as discussed. Additionally, two schools only provided the post-survey. Because the total participants was already reduced, it was not possible to remove the two schools from the study without reducing the statistical power. Therefore, the covariate, pre-survey, was removed from the study, and the statistical analysis was changed to a two-way MANOVA. This change allowed the statistical power and level of significance to remain unchanged. Table 7 shows the expected number of participants and the data actually received.

Table 7*Data Collection by School.*

School	Expected Data			Received Pre-Test			Received Post-Test		
	Total Students	IEP	Non-IEP	Total Students	IEP	Non-IEP	Total Students	IEP	Non-IEP
School A	57	11	46	52	8	44	45	7	38
School B	84	11	73	0	0	0	17	11	6
School C	86	17	69	72	17	55	74	17	57
School D	74	14	60	0	0	0	55	16	39
School E	66	14	52	55	12	43	52	11	41
School F	68	15	53	40	10	30	36	11	25
Total	435	83	352	219	47	172	279	73	206

The statistical analysis was changed to a MANOVA because the instrument, the *Childhood Career Development Scale*, does not allow for a composite score. The instrument is intended to measure multiple constructs, or multiple dependent variables, separately. These variables include information, curiosity, exploration, interests, locus of control, key figures, time perspective, planning, and self-concept. Thus, the MANOVA is the most appropriate statistical analysis. Prior to the proposal, it was assumed the instrument had a composite score. However, after the proposal, further research showed that the instrument could not be compiled into a composite score but rather uses each subscale score individually.

Due to the change in the statistical analysis, the research question was modified to reflect the change from ANCOVA to MANOVA, as shown below.

Research Question

RQ: Is there a difference between the mean career development progress subscale scores of sixth-grade students who participate in a career development curriculum and those who do not participate, based on type of educational placement (general education or special education)?

Null Hypotheses

H₀₁: There is no significant difference between the mean career development progress subscale scores of sixth-grade students who participate in a career development curriculum and those who do not participate in the curriculum.

H₀₂: There is no significant difference between the mean career development progress subscale scores of general education and special education sixth-grade students.

H₀₃: There is no significant interaction between the mean career development progress subscale scores of general education and special education sixth-grade students who participate in a career development curriculum and those who do not participate in the curriculum.

Descriptive Statistics

A two-way MANOVA was used to analyze the data to determine the effect of two independent variables, curriculum and educational placement, on eight dependent variables, the subscale scores attained from the *Childhood Career Development Scale* (i.e., planning, self-concept, information, interests, locus of control, curiosity/exploration, key figures, and time perspective). The curriculum variable had two levels: presence or absence of the curriculum. The educational placement variable had two levels: general education or special education placement. The total sample size was $N = 276$ with the following groups: general education placement with curriculum ($N = 103$), general education placement without curriculum ($N = 100$), special education with curriculum ($N = 38$), and special education without curriculum ($N = 35$).

Descriptive statistics for each variable are shown in Table 7.

Table 8

Descriptive Statistics for Variable.

	General Education				Special Education			
	With Curriculum		Without Curriculum		With Curriculum		Without Curriculum	
<i>N</i> (276)	103		100		38		35	
Variable	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Information	23.46	4.58	23.58	4.73	23.29	4.37	23.49	4.25
Curiosity/Exploration	22.88	6.43	22.39	5.62	22.29	6.38	23.51	5.23
Interests	26.31	3.22	26.42	3.00	24.97	3.51	25.69	3.08
Locus of Control	30.79	3.97	31.44	3.45	28.24	5.23	28.86	5.54
Key Figures	20.14	3.45	19.93	4.18	19.00	4.21	19.14	4.33
Time Perspective	16.43	2.83	16.90	3.16	15.53	3.18	16.00	2.92
Planning	45.28	7.74	46.68	6.42	41.87	8.50	46.31	6.50
Self-Concept	24.36	4.46	25.42	3.96	23.32	4.34	24.29	4.64

Assumption Tests

The MANOVA analysis requires several assumptions to be held tenable prior to analysis of the data (Warner, 2013). The assumptions of normality, linearity, multicollinearity, and homogeneity were evaluated. The assumption of normality was assessed using the Kolmogorov-Smirnov test. Box-and-whiskers were used to assess extreme outliers (Appendix G, Figure 1). The assumption of linearity was assessed using matrix scatter plots. The assumption of multicollinearity was examined using the Pearson correlation coefficient. Finally, the assumption of homogeneity was reviewed with Levene's test.

Assumption of Normality

The assumption of normality was evaluated with the Kolmogorov-Smirnov test because the total sample size was greater than 50. Histogram for each dependent variable were visually examined. Box-and-whisker plots revealed extreme outliers for the interest, planning, and self-concept variables. Interest and self-concept showed one extreme outlier with participant 169 and participant 141, respectively, while planning showed two extreme outliers with case 1 and case 141. These participants were removed before further analysis, reducing the data set to 276 participants. The Kolmogorov-Smirnov test revealed that all dependent variables violated the assumption of normality (Appendix G, Table 1).

Assumption of Linearity

The assumption of linearity was evaluated using matrix scatter plots. Each matrix scatter plot showed an elliptical shape, indicating that the assumption of linearity was met.

Assumption of Multicollinearity

The assumption of multicollinearity was examined using Pearson's correlation coefficient (Appendix G, Table 2). All variables were less than 0.9; thus, the assumption of multicollinearity was met (Hair et al., 2010).

Assumption of Homogeneity of Variances

The equality of error variances was reviewed using Levene's test (Table 10). The results showed that each dependent variable, except for locus of control, was non-significant, indicating that variances was approximately equal across groups. The assumption of homogeneity of variances was met for all variables, except locus of control (Appendix G, Table 3).

Violations

The data violated the assumption of normality for all variables and the assumption of homogeneity of variances for the variable locus of control. However, MANOVA is robust to violations of the assumption of normality and has little effect on Type I errors when the N is high (Warner, 2013), which is the case in this study. Additionally, violations to the assumption of homogeneity of variances can be addressed using Pillai's trace instead of Wilk's lambda, as Pillai's trace is more robust to violations (Warner, 2013). Furthermore, the use of parametric tests is preferred to non-parametric tests because parametric tests have better statistical power than non-parametric tests (Gall et al., 2007; Warner, 2013). Another issue with non-parametric tests arises when there is more than one predictor and/or outcomes variable; there is no analogous non-parametric test (Gall et al., 2007; Warner, 2013). Thus, due to the high N in this study, the lack of analogous non-parametric test, and the robustness of the parametric test, the planned MANOVA analysis was conducted.

Results

A two-way MANOVA was performed to determine whether there was a statistically significant difference across eight dependent variables (*Childhood Career Development Scale* subscales) based on two independent variables (educational placement and curriculum). The two-way MANOVA tested the main effect of curriculum and educational placement, respectively, and the interaction of curriculum and educational placement on subscale scores. A two-way MANOVA allowed the data to be analyzed for the interaction effect between the independent variables (Gall et al., 2007). Each independent variable had two levels with educational placement reported as general education or special education and curriculum reported as with and without the career development curriculum.

Hypotheses

A two-way MANOVA was used to evaluate the null hypotheses. Null hypothesis one assumed there were no significant differences between the mean career development progress subscale scores of sixth-grade students who participate in a career development curriculum and those who do not participate in the curriculum. Significant differences were not found among the dependent variables based on career development curriculum, Pillai's Trace = 0.031, $F(8, 265) = 1.054$, $p = .396$. Researcher failed to reject null hypothesis one.

Null hypothesis two assumed no significant differences between the mean career development progress subscale scores of general education and special education sixth-grade students. Significant differences were found among the dependent variables based on education type, Pillai's Trace = 0.089, $F(8, 265) = 3.231$, $p = .002$, $\eta^2 = 0.089$. Null hypothesis two was therefore rejected.

Null hypothesis three assumed no significant interaction between the mean career development progress scores of general education and special education sixth-grade students who participate in a career development curriculum and those who do participate in the curriculum. Significant interactions were not found among the independent variables Pillai's Trace = 0.015, $F(8, 265) = 0.501$, $p = 0.855$. Researcher failed to reject null hypothesis three.

Table 9 provides the results of the MANOVA analysis.

Table 9*Multivariate Tests.*

Effect		Value	Hypothesis				Partial η^2
			<i>F</i>	<i>df</i>	Error <i>df</i>	Sig.	
Intercept	Pillai's Trace	.987	2527.111 ^b	8.000	265.000	.000	.987
	Wilks' Lambda	.013	2527.111 ^b	8.000	265.000	.000	.987
	Hotelling's Trace	76.290	2527.111 ^b	8.000	265.000	.000	.987
	Roy's Largest Root	76.290	2527.111 ^b	8.000	265.000	.000	.987
IEP	Pillai's Trace	.089	3.231 ^b	8.000	265.000	.002	.089
	Wilks' Lambda	.911	3.231 ^b	8.000	265.000	.002	.089
	Hotelling's Trace	.098	3.231 ^b	8.000	265.000	.002	.089
	Roy's Largest Root	.098	3.231 ^b	8.000	265.000	.002	.089
Curriculum	Pillai's Trace	.031	1.054 ^b	8.000	265.000	.396	.031
	Wilks' Lambda	.969	1.054 ^b	8.000	265.000	.396	.031
	Hotelling's Trace	.032	1.054 ^b	8.000	265.000	.396	.031
	Roy's Largest Root	.032	1.054 ^b	8.000	265.000	.396	.031
IEP * Curriculum	Pillai's Trace	.015	.501 ^b	8.000	265.000	.855	.015
	Wilks' Lambda	.985	.501 ^b	8.000	265.000	.855	.015
	Hotelling's Trace	.015	.501 ^b	8.000	265.000	.855	.015
	Roy's Largest Root	.015	.501 ^b	8.000	265.000	.855	.015

a. Design: Intercept + IEP + Curriculum + IEP * Curriculum

b. Exact statistic

Null hypothesis two was rejected. Therefore, ANOVA tests of between-subjects effects were conducted as follow-up tests to the MANOVA. Significant differences were identified for interests ($F(1, 272) = 5.75, p < .05, \eta^2 = .02$), locus of control ($F(1, 272) = 20.23, p < .05, \eta^2 = .07$), time perspective ($F(1, 272) = 4.79, p < .05, \eta^2 = .02$), and planning ($F(1, 272) = 5.92, p <$

.05, $\eta^2 = .02$) (see Table 10). The differences in means between the IEP and non-IEP groups for each dependent variable are shown in Table 11.

Table 10

Tests of Between-Subjects Effects for IEP.

Source	Dependent Variable	Type III			<i>F</i>	Sig.	Partial η^2
		SS	<i>df</i>	MS			
IEP	Information	0.91	1.00	0.91	0.04	0.83	0.00
	Curiosity/Exploration	3.77	1.00	3.77	0.11	0.75	0.00
	Interests	57.51	1.00	57.51	5.75	0.02	0.02
	Locus of Control	353.13	1.00	353.13	20.23	0.00	0.07
	Key Figures	49.58	1.00	49.58	3.18	0.08	0.01
	Time Perspective	43.48	1.00	43.48	4.79	0.03	0.02
	Planning	313.51	1.00	313.51	5.92	0.02	0.02
	Self-Concept	63.58	1.00	63.58	3.45	0.06	0.01

Table 11

Estimated Marginal Means for IEP Variable.

Dependent Variable	IEP	M	SE	95% Confidence Interval	
				Lower Bound	Upper Bound
Information	Non- IEP	23.518	.321	22.887	24.150
	IEP	23.388	.535	22.334	24.441
Curiosity/ Exploration	Non- IEP	22.637	.421	21.808	23.465
	IEP	22.902	.702	21.519	24.285
Interests	Non- IEP	26.365	.222	25.928	26.802
	IEP	25.330	.370	24.600	26.059
Locus of Control	Non- IEP	31.113	.293	30.536	31.691
	IEP	28.547	.489	27.583	29.511
Key Figures	Non- IEP	20.033	.277	19.487	20.579
	IEP	19.071	.462	18.161	19.982
Time Perspective	Non- IEP	16.664	.212	16.247	17.080
	IEP	15.763	.353	15.068	16.458
Planning	Non- IEP	45.981	.511	44.975	46.986
	IEP	43.563	.852	41.885	45.241
Self-Concept	Non- IEP	24.890	.301	24.296	25.483
	IEP	23.801	.503	22.811	24.791

CHAPTER FIVE: CONCLUSIONS

Overview

This study utilized a two-way MANOVA to determine whether the career development progress subscales of special education students differ from general education students in the presence and absence of career development curriculum. The results were collected from a sample population of 276 sixth-grade students in an eastern state. The sample population included 103 students in general education with curriculum, 100 students in general education without curriculum, 38 students in special education with curriculum, and 35 students in special education without curriculum. In this chapter, the results, implications, limitations, and future research are discussed.

Discussion

The purpose of this study is to compare the differences in career development progress subscales between groups of sixth-grade general education and special education students after a career intervention had been completed. The research question in this study investigated the difference between the mean career development progress subscale scores of sixth-grade students who participated in a career development curriculum and those who did not participate, based on type of educational placement (general education or special education). A two-way MANOVA was utilized to analyze the collected data to determine if differences in career development subscales existed between sixth-grade general education and special education students, between the presence or absence of career development curriculum, and between the interaction of educational placement and curriculum.

Differences in Career Development Progress Based on Curriculum

The results of the study indicate that there is no significant difference in career

development progress subscales scores between students that received the curriculum and those that did not. Based on the results, the presence of the career development curriculum did not have a significant impact on career development progress. This result contradicts the literature, similar studies, and theory.

Career Development Curriculum Literature

Several meta-analyses spanning research conducted between 1950 and 2015 found that career interventions are generally successful (Brown & Ryan Krane, 2000; Oliver & Spokane, 1988; Ryan, 1999; Spokane & Oliver, 1983; Whiston et al., 1998; Whiston et al., 2017). Using the Glassian (delta) method, Spokane and Oliver (1983) found that vocational interventions have an effect size of 0.85 and supportive group, structured workshop, or class interventions have an effect size of 1.11. Oliver and Spokane (1988) found that classroom-based career interventions showed the greatest effect size (2.05) compared to other types of interventions. Whiston and colleagues (1998) weighted effect sizes by sample size and the inverse variance and found that career interventions had effect sizes between 0.4 and 0.65. Ryan (1999) and Brown and Ryan Krane (2000) found that career interventions had an effect size of 0.34 and that career interventions with 4-5 sessions were the most effective. Finally, Whiston and colleagues (2017) demonstrated that the weighted mean effect size of career interventions, vocational exploration, and classroom-based career interventions had effect sizes of 0.352, 0.723, 0.619, respectively. Overall, a large number of studies spanning from 1950 to 2015 determined the weighted mean effect size of career interventions to be approximately 0.3. Thus, the use of career interventions

is beneficial and supported by 65 years of literature, which is in direct contrast to the results of this study.

Similar Career Development Curriculum Studies

The study most similar to the planned study was conducted by Ginevra and Nota (2018). The study utilized a pre-test/post-test design to investigate the effect of a structured ten-unit career curriculum with late elementary school students using several scales that included the *Childhood Career Development Scale*. The data was analyzed using a MANOVA for each subscale. The results showed a significant difference in the subscales of information, curiosity/exploration, time perspective, and planning, suggesting career curriculum could increase some career development aspects in children (Ginevra & Nota, 2018).

Another similar study compared web-based and traditional career interventions using a pretest-posttest comparison group design with fourth- and fifth-grade students (Cerrito et al., 2018). Students participated in either web-based or traditional career curriculum, completing the *Childhood Career Development Scale* as the pre-test and post-test measure. The data was analyzed for each subscale using repeated measures ANOVAs. The within-groups effect showed significance in three of the four subscales evaluated in the study, which included information, curiosity/exploration, and locus of control, indicating that career interventions can positively impact career development progress (Cerrito et al., 2018).

These studies found that some subscale areas (*i.e.*, information, curiosity/exploration, time perspective, locus of control, and planning) were significantly impacted by the use of career development curriculum, which contradicts the results of this study.

Super's Life-Span, Life-Space Approach To Careers

Super's life-span, life-space approach to careers (1990) postulated that career development is an intentional process that uses formal learning strategies to intentionally teach students about careers. Career development begins with curiosity and exploration, leading to the development of interests (Super, 1990; Super et al., 1996). Interests can be further developed over time, leading to intentional problem solving and career choices (Super, 1990; Super et al., 1996). The intentionality of this process allows students to link classroom learning to occupations and assists making suitable choices regarding future careers (Super, 1990; Super et al., 1996).

The current study utilized a career curriculum that was based on the intentionality aspect of Super's life-span, life space approach to careers. The curriculum asked students to complete interest surveys and research corresponding careers with specific questions as a focus. The lessons provided an intentional process for exploration and student interests. However, the curriculum as a whole was not significantly beneficial to students, which is in contrast to the theory.

Differences in Career Development Progress Based on Educational Placement

The current study investigated whether there was a significant difference between the mean career development progress subscale scores of general education and special education sixth-grade students. The results showed a significant difference between scores of general education and special education students. A test of between-subjects effects showed that the subscales of interests, locus of control, time perspective, and planning were significantly different between general education and special education students. Thus, the null hypothesis was rejected. For each significant subscale, students in the general education placement had

higher mean scores than students in the special education placement, indicating greater career development progress.

Transition Literature

Students with disabilities contend with a wide array of challenges during the transition from school to postsecondary life, including increased frequency of anxiety and depression (Austin et al., 2018), elevated stress (Feldman et al., 2016), and heightened loneliness (Quan et al., 2014). In addition, students with disabilities have inferior outcomes in postsecondary education, employment, and independent living than their peers (Harvey et al., 2019; Newman et al., 2011; Prince et al., 2017). Young adults with disabilities are less likely to enroll in or finish postsecondary education, live independently, marry, or have a checking account or credit card and typically earn less money per hour on average than their non-disabled peers (Acharya et al., 2017; Harvey et al., 2019; Newman et al., 2011; Prince et al., 2017; Wagner & Newman, 2015).

A review of transition literature using papers published from 1984 to 2009 found 16 in-school predictors of outcomes in postsecondary education, employment, and independent living. (Test et al., 2009). The predictors relevant to the current study include career awareness and occupational courses, which the review by Test and colleagues (2009) found to have potential levels of evidence. Career awareness had a potential level of evidence for education and employment with small effect sizes of 0.27 and 0.23, respectively (Test et al., 2009). Occupational courses also had a potential level of evidence for education and employment with medium and large effect sizes of 0.47 and 0.53, respectively (Test et al., 2009).

Haber et al. (2016) conducted a meta-analysis for the predictors determined by Test et al. (2009) using studies published between January 1984 and May 2010. Particular to the current

study career awareness and occupational courses were found to be significant, low frequency predictors with effect sizes of 0.56 and 0.08, respectively (Haber et al., 2016).

The current study employed career development curriculum related to the predictors of career awareness and occupational courses. Career awareness is defined as “learning about opportunities, education, and skills needed in various occupational pathways to choose a career that matches one’s strengths and interests” (Rowe et al., 2014, p. 118), and occupational courses are “individual courses that support career awareness, allow or enable students to explore various career pathways, develop occupational specific skills through instruction, and experiences focused on their desired employment goals” (Rowe et al., 2014, p. 119). Both predictors demonstrate potential levels of evidence for positive outcomes (Haber et al., 2016; Test et al., 2009). The current study is an agreement with the literature that demonstrates poorer outcomes for students with disabilities as compared to their peers (Austin et al., 2018; Feldman et al., 2016; Harvey et al., 2019; Newman et al., 2011; Prince et al., 2017; Quan et al., 2014;). However, the mean career development progress scores in the subscales of interests, locus of control, time perspective, and planning had significantly lower mean scores for students with disabilities, which contradicts the literature, as career awareness activities and occupational courses had positive effects for students with disabilities (Haber et al., 2016; Test et al., 2009).

Similar Studies Involving Students with Disabilities

Three similar studies utilized career development curriculum with a pre-test/post-test with female students with disabilities. Doren, Lombardi, Clark, and Lindstrom (2013) utilized a gender-specific career development curriculum with female high school students with disabilities in which students were divided into control and treatment groups. Both groups completed pre-test and post-test measures. The treatment group participated in the Paths curriculum which

included modules covering self-awareness, disability awareness, gender identity, and career and college (Doren et al., 2013). The results showed significant gains in autonomy, disability and gender-related knowledge, and vocational skills self-efficacy and meaningful improvements in self-advocacy, autonomy, and vocational outcome expectations, suggesting curriculum can positively effect career development progress in female students with disabilities (Doren et al., 2013).

The second study also utilized a pre-test/post-test with control and treatment groups. Female high school students with disabilities ($N=136$) were divided into a control group and treatment group that completed Paths 2 the Future career development curriculum, which includes self-awareness, disability knowledge, gender identity, and career and college readiness (Lindstrom et al., 2018). The study found significant differences between the control and treatment groups with improvements in disability and gender awareness, vocational skills self-efficacy, self-realization, and overall career development progress (Lindstrom et al., 2018). The findings indicate that the curriculum was beneficial for female students with disabilities.

The third study is an expansion of the study conducted in 2019 by Lindstrom and colleagues with 366 total participants (Lindstrom et al., 2020). This study used an intent-to-treat analysis to evaluate the efficacy of the Paths 2 the Future career development curriculum in female high school students with disabilities as compared to those that did not complete the curriculum (Lindstrom et al., 2020). The results demonstrated that students that completed the curriculum grew in career development at a greater rate as compared to students in the control group, indicating that the curriculum was beneficial for students with disabilities (Lindstrom et al., 2020).

All three studies utilized pre-test/post-test measures with treatment groups that received career development curriculum and compared the results to students that did not receive the treatment. All of the studies found that the career development curriculum increased the career development progress of the participants. The results of these studies were in contrast to the results of the current study in that the curriculum showed greater career development progress than was evidenced here.

Super's Life-Span, Life-Space Approach To Careers for People with Disabilities

The life-span, life-space approach to careers is a developmental process in which individuals traverse different stages related to career development (Super, 1990; Super et al., 1996). Many aspects of Super's Life-Career Rainbow model are applicable to individuals with disabilities (Hershenson & Szymanski, 1992; Jamieson & Peterson, 1995). The Life-Career Rainbow defines eight life roles (*i.e.*, child, students, leisurite, citizen, worker, parent, spouse, and homemaker) and five life stages (*i.e.*, growth, exploration, establishment, maintenance, and disengagement) (Super, 1980). In this study, most students should be at the growth stage based on their age. The growth stage, which encompasses birth to 14 years old, is defined by four major career development tasks in which children become concerned about the future, experience increasing autonomy, become aware of the importance of school and work, and develop habits and attitudes (Super et al., 1996). Early career development also involves career-related fantasy and exposure to credible role models (Szymanski, 1994), leading to interests that will later be explored (Super, 1990).

However, many students without disabilities are unprepared to make career choices at the end of high school (Super, 1990). Students with disabilities may experience developmental delays that may cause undetermined interests and work-goals (Szymanski, 1994). The potential

adverse outcomes experienced by students with disabilities could cause these students to be even more unprepared than their non-disabled peers (Szymanski, 1994). Thus, career development tasks that begin in the growth stage and continue through the exploration stage would be beneficial to students with disabilities (Super, 1990). The current study is in contrast to the outcomes expected based on the life-span, life-space approach to careers.

Interaction Between Curriculum and Educational Placement

The third null hypothesis stated there is no significant interaction between the mean career development progress subscale scores of general education and special education sixth-grade students who participate in a career development curriculum and those who do participate in the curriculum. This null hypothesis was accepted, and the results did not yield significant differences between subscale scores of general education and special education sixth-grade students who participated in a career development curriculum and those who did not participate in the curriculum.

Literature

Overall, many types of career interventions have been found to benefit individuals and groups (Brown & Ryan Krane, 2000; Oliver & Spokane, 1988; Ryan, 1999; Spokane & Oliver, 1983; Whiston et al., 1998; Whiston et al., 2017). Specific to this study, classroom-based interventions and vocational curriculum have small to medium effect sizes and increase career development progress (Brown & Ryan Krane, 2000; Oliver & Spokane, 1988; Ryan, 1999; Spokane & Oliver, 1983; Whiston et al., 1998; Whiston et al., 2017).

Several in-school predictors of postsecondary outcomes in education, employment, and independent living demonstrate positive effects on individuals with disabilities (Test et al.,

2009). Career awareness and occupational courses demonstrate varying effect sizes, resulting in positive postsecondary outcomes (Haber et al., 2016).

Thus, the interaction of career development curriculum and educational placement could be expected to result in positive career development progress. However, the current study contradicted the findings of career development and transition literature.

Similar Studies

Studies that utilized the interaction between career development curriculum and educational placement are currently lacking in the literature. The previously discussed studies demonstrated positive effects in career development progress for students with and without disabilities that participated in career development curriculum (Cerrito et al., 2018; Doren et al., 2013; Ginevra & Nota, 2018; Lindstrom et al., 2018; Lindstrom et al., 2020). Thus, the interaction of career development curriculum and educational placement could have been reasonably expected to have positive outcomes. However, the assumption that the interaction of the independent variables would have positive effects on career development curriculum was incorrect.

Life-Span, Life-Space Approach to Careers

Super's life-span, life-space approach to careers (Super, 1990; Super et al., 1996) postulated career development as a lifelong developmental process that begins in childhood, and Super's model is applicable to individuals with disabilities (Jamieson & Peterson, 1995; Hershenson & Szymanski, 1992). Super's career development theory has provided a framework for career education in schools. According to Super (1990), a career development program should begin in elementary school with activities that promote curiosity, exploratory behavior, autonomy, time-perspective, and self-esteem, while also exposing students to a variety of adult

role models. Exploration would be expanded upon in middle school when the student seems ready to focus on one or two groups of occupations and could phase back to the previous stage if in-depth studies are unsuccessful (Super, 1990). The current study promoted career awareness and in-depth exploration but did not produce positive results.

Implications

The results of this study imply that there is no difference in the career development progress between general education and special education students that participated in career curriculum and those that did not participate in the curriculum. Despite 65 years of career intervention literature demonstrating the positive impacts of career interventions, including curriculum, this study indicates no significant difference in the implementation of curriculum for general education and special education students. The current study demonstrates the need for further studies that compare the career development of general education and special education students.

The results could have stemmed from a disconnect in the life stage of the students as presented by Super. Super postulated that students should have begun career awareness activities in elementary school prior to in-depth exploration (Super, 1990; Super et al., 1996). The current study involved career inventories and in-depth exploration of two careers aligned to student interests. Super believed that the exploration stage would begin to be expanded in middle school when the individual is ready to focus on one or two groups of occupations to explore in-depth (Super, 1990). However, since the students only participated in passive career development activities before this study, the students may not have been prepared for the in-depth exploration required by the curriculum.

The subscales of interests, locus of control, time perspective, and planning were significantly different between general education and special education students with general education students having higher mean scores. Students with disabilities have the potential to be farther behind developmentally than their non-disabled peers, leading to poorer career development progress (Szymanski, 1994). Thus, it is not unexpected that there would be differences between the two groups. However, the subscales of self-concept, curiosity/exploration, and key figures resulted in no significant difference between general education and special education students. While the curriculum sought to address each of the subscales through the lessons provided, the results were not significant for some subscales. This demonstrates the further need of studies to address the differences in career development progress for general education and special education students.

Limitations

Some limitations may have had adverse impacts on the study, including the COVID-19 pandemic, miscommunication, *Childhood Career Development Scale* properties, and assumption violations. The novel COVID-19 pandemic caused several limitations to be placed on the normal operations of schools, including virtual education, social distancing, staggered classes, visitor limitations, and masking. For many students, the 2021-22 school year was the first time they had been consistently in a school building with their peers since the pandemic began. The previous year, many students were required to participate via distance or virtual learning. The passive career development activities completed in the classroom may not have happened as readily. Thus, participating in intentional career development curriculum may have been a novel experience for students. This limitation will be reduced in the future because the limitations in place due to the COVID-19 pandemic have been lifted.

The other limitation was that the participating schools were unable to allow the researcher to enter their buildings due to the COVID-19 pandemic. Thus, the researcher was limited to electronic forms of communication when contacting participating teachers and principals. This led to some misunderstandings about the steps involved in the study, including the pre-test and post-test. Two schools did not provide a pre-test to their students, resulting in a change to the statistical analysis. It is unclear how the difference in study parameters between schools impacted the study. This could be remedied in future studies now that outside visitors are generally permitted to enter schools. This would allow researchers to interact synchronously with staff and troubleshoot issues.

The psychometric properties of the *Childhood Career Development Scale* were evaluated during the scale creation and validation process. The authors shared that further support for the convergent and divergent validity of the subscale scores is needed to ensure the scale is measuring the intended constructs (Schultheiss & Stead, 2004). This could have an impact on the results obtained during this study. Research regarding the validity of the scale has been conducted for Italian middle school students (Ferrari et al., 2018), which found convergent validity. However, this result cannot be generalized to other national contexts. In future research, this limitation could be addressed by validating the scale to the participants or using other scales to measure childhood career development.

Finally, violations in assumptions testing could have had an impact on the results. The assumption of normality for all variables and the assumption of homogeneity of variances for locus of control were violated in this study. Thus, the distribution of sample means was not normally distributed and locus of control was not homogeneous. However, MANOVA is generally robust to violations of normality, and Pillai's trace was used instead of Wilk's lambda

and is robust to violations. In the future, this could be addressed with a larger sample size or transforming collected data.

Recommendations for Future Research

Additional research regarding career development in special education students is still required. Future research could replicate this study and address the limitations that may have impacted the results. It is difficult to know how the changes in the study design between schools impacted the results. Another potential area for exploration would be a longitudinal study that incorporates the early career development activities that transition to in-depth exploration, as outlined by Super (1990), and compare the career development progress of students with and without disabilities. A longitudinal study would allow data to be collected over time that could show the impact of intentional career development at the correct life stage for the students.

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APPENDIX A: SUPERINTENDENT PERMISSION REQUEST

Dear Sir or Madam:

As a graduate student in the School of Education at Liberty University, I am conducting research as part of the requirements for a doctoral degree. The title of my research project is *Differences in Career Development Progress Between Sixth-Grade General and Special Education Students after Completing a Career Development Curriculum* and the purpose of my research is to evaluate the differences in career development between special education and general education students who participate in a career development intervention and those who do not participate.

I am writing to request your permission to conduct my research with sixth-graders in your school district. Students will be asked to complete two surveys and participate in career development lessons. Sixth-grade teachers will be asked to proctor two surveys and teach the career development lessons that will be provided to them.

The data will be used to evaluate how a specific career development intervention affects special education and general education students, so more targeted interventions can be developed. Participants will be presented with informed consent information prior to participating. Taking part in this study is completely voluntary, and participants are welcome to discontinue participation at any time.

Thank you for considering my request. If you choose to grant permission, please respond by email to [REDACTED]. A permission letter document is attached for your convenience.

Sincerely,

TaLonne Gungle
Doctoral Student

APPENDIX B: PRINCIPAL CONSENT

Dear Principal Name:

As a graduate student in the School of Education at Liberty University, I am conducting research as part of the requirements for a doctoral degree. The title of my research project is *Differences in Career Development Progress Between Sixth-Grade General and Special Education Students after Completing a Career Development Curriculum* and the purpose of my research is to evaluate the differences in career development between special education and general education students who participate in a career development intervention and those who do not participate.

I am writing to request your permission to conduct my research with sixth-graders at School Name. Participants would be divided into two groups, general education and special education. Participating schools will be divided into treatment (career development curriculum) and non-treatment (no career development curriculum) groups. Should you agree to this request, I am also asking that you distribute my study recruitment and consent materials to parents and students.

The data will be used to evaluate how a specific career development intervention affects special education and general education students, so more targeted interventions can be developed. Participants and their parents will be presented with informed consent information prior to participating. Taking part in this study is completely voluntary, and participants are welcome to discontinue participation at any time.

Thank you for considering my request. If you choose to grant permission, please respond by email to [REDACTED]. A permission letter document is attached for your convenience.

Sincerely,

TaLonne Gungle
Doctoral Student

Dear Sir or Madam:

Your school is invited to participate in a research study evaluating the impact of career development curriculum. Please review this form and ask any questions you have before agreeing to participate. The study is being conducted by TaLonne Gungle, a doctoral student in the School of Education at Liberty University, and is supervised by Dr. Philip Alsup of Liberty University.

Background:

The purpose of my research is to evaluate the differences in career development between special education and general education students who participate in a career development curriculum and those who do not participate. Research shows that earlier transition plans are beneficial to special education students. This study will assist educators in planning and implementing appropriate and meaningful transitions for students in special education.

Procedures:

If you agree to grant permission, 6th-grade students will be asked to do the following:

1. Provide an informed consent document to parents, who may opt-out of the study.
2. Complete the *Childhood Career Development Scale*, a survey, that asks questions about various aspects of career development. The first part of the survey will ask their initials, last four digits of their student ID, age, grade, gender, and educational placement (general or special education).
3. Some schools will be randomly assigned to the curriculum group, which involves participation in *Roads to Success*, a curriculum taught by your teachers. Schools not assigned to the curriculum group will take no action during this phase of the study.
4. Complete the *Childhood Career Development Scale* again after the treatment period is over.

If you agree to grant permission, 6th-grade teachers will be asked to:

1. Meet with the researcher, either in-person or virtually, to discuss the study details before beginning the study.
2. Proctor the *Childhood Career Development Scale*, once before the treatment period and once after the treatment period.
3. Teach the scripted lessons provided in the *Roads to Success* curriculum. This curriculum consists of five modules, and each module takes about 45 minutes to complete. The modules can be divided into smaller lessons, if needed.
4. Store any completed forms securely until the researcher can retrieve them.

Risks and Benefits of Participating in the Study:

This study does not have any associated risks that would be greater than those that would be encountered during typical instruction (minimal risk).

Compensation:

Student participants will not be compensated for enrolling in the study. Teachers will be asked to help with this research and will be given a \$25 gift card for their time and assistance.

(Please continue reading on the next page.)

Confidentiality:

The records of this study will be kept private. Published reports will not include any information that will make it possible to identify a subject. Research records will be stored securely, and only the researcher will have access to the records. Student responses will remain anonymous. While the last four digits of the student ID and initials are requested in the survey, the researcher has no way to identify individual students based on this information alone. This information is requested so that the researcher can link pre-tests and post-tests while also differentiating between general education and special education students. Data will be stored on a password-locked computer and may be used in future presentations. After three years, all electronic records will be deleted.

Voluntary Nature of the Study:

Participation is voluntary. Participants are free to not answer any question or withdraw at any time.

Contacts and Questions:

The researcher conducting this study is TaLonne Gungle. You may ask any questions you have now. If you have questions later, **you are encouraged** to contact her at [REDACTED]. You may also contact the researcher's faculty sponsor, Philip Alsup at [REDACTED].

If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher, you are encouraged to contact the Institutional Review Board, 1971 University Blvd., Green Hall Ste. 2845, Lynchburg, VA 24515 or email at irb@liberty.edu

Please return a signed form if you choose to grant permission. This can be emailed or mailed to TaLonne Gungle at [REDACTED].

Statement of Consent

I have read and understood the above information, and I have been given an opportunity to ask questions and have received answers to my questions (if applicable). I grant permission for my school to participate in this study and am authorized to give such permission.

Name of School: _____

Printed Name of Principal: _____

Signature of Principal: _____

Date: _____

APPENDIX C: PARENTAL CONSENT FORM

Dear Parent:

As a graduate student in the School of Education at Liberty University, I am conducting research as part of the requirements for a doctoral degree. The purpose of my research is to evaluate the differences in career development between special education and general education students who participate in a career development intervention and those who do not participate, and I am writing to invite your student to join my study.

Participants must be in the sixth-grade. Participating schools will be divided into two groups: those that participate in career development curriculum and those that do not. Participants in the career development curriculum group will be asked to complete a career development progress survey (20 min), participate in a career development curriculum (five lessons), and retake the survey (20 min). Participants that are in the group that does not participate in the curriculum will take a career development progress survey (20 min) and then six weeks later, they will retake the same survey (20 min). Participation will be completely anonymous, and no personal, identifying information will be collected.

A consent document is attached to this letter. The consent document contains additional information about my research. Because the curriculum will be taught by your student's teacher(s), participation will be determined by an opt-out method. If you do not want your student to participate or have their data shared with the researcher, please sign and return the consent form to your student's school before the first survey is administered. If you wish for your student to participate, you will not need to do anything.

Sincerely,

TaLonne Gungle
Researcher



Parental Consent/Opt-Out Form

Title of the Project: Differences in Career Development Progress Between Sixth-Grade General and Special Education Students after Completing a Career Development Curriculum
Principal Investigator: TaLonne Gungle, Student, Liberty University

Invitation to be Part of a Research Study

Your student is invited to participate in a research study. Participants must be enrolled in sixth-grade. Taking part in this research project is voluntary. Please take time to read this entire form and ask questions before deciding whether to allow your student 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 there is any difference in career development between

sixth-grade special education and general education students that participate in a career development curriculum and those that do not participate in the curriculum.

What will participants be asked to do in this study?

If you agree to allow your student to be in this study, I will ask him or her to do the following things:

1. Complete a brief set of demographic questions and a pretest that measures eight topics related to career development. The pretest is an online survey that takes ten to fifteen minutes to complete.
2. (Students at Schools in the Intervention Group Only*): Participate in five career development lessons (Roads to Success curriculum) during their advisory class period during the fall semester.
3. Complete a brief set of demographic questions and a posttest that measures eight topics related to career development. The posttest is a paper-and-pencil test that takes ten to fifteen minutes to complete.

*Schools that participate in the career development lessons will be randomly selected using a tool in Microsoft Excel. Participants may or may not receive the intervention (Roads to Success curriculum) as part of their participation.

How could participants or others benefit from this study?

Direct Benefits: The direct benefit participants in treatment schools (career development curriculum) should expect to receive from taking part in this study is participating in a career development intervention that may positively impact his or her career development progress.

No Direct Benefits: Participants in non-treatment schools (no career development curriculum) should not expect to receive a direct benefit from taking part in this study.

Benefits to society include evaluating the career development of sixth-grade students, which could lead to the creation of targeted interventions that positively impact career development in sixth-grade.

What risks might participants experience from being in this study?

The risks involved in this study are minimal, which means they are equal to the risks your student would encounter in everyday life. As a researcher, I may become privy to information that triggers the mandatory reporting requirements for child abuse, child neglect, elder abuse, or intent to harm self or others.

How will personal information be protected?

The records of this study will be kept private. Published reports will not include any information

that will make it possible to identify a subject. Research records will be stored securely, and only the researcher will have access to the records.

- Participant responses will be kept anonymous through the use of codes. While the last four digits of the student ID and initials are requested in the survey, the researcher has no way to identify individual students based on this information alone. This information is requested so that the researcher can link pre-tests and post-tests while also differentiating between general education and special education students.
- Data will be stored on a password-locked computer and may be used in future presentations. After three years, all electronic records will be deleted.
- Results of the study will only be shared in aggregate with participating schools.

What conflicts of interest exist in this study?

The researcher serves as an academic coach at Calhoun County Middle/High School. To limit potential conflicts of interest or bias, a research assistant will code pretests and posttests from sixth graders at Calhoun County Middle so they can be provided to the researcher without identifiers. This disclosure is made so that you can decide if this relationship will affect your willingness to allow your child to participate in this study. No action will be taken against an individual based on his or her decision to participate in this study.

Is study participation voluntary?

Participation in this study is voluntary. Your decision whether or not to allow your student to

participate will not affect your or his or her current or future relations with Liberty University or your school. If you decide to allow your student to participate, she or he is free to not answer any question or withdraw at any time without affecting those relationships.

What should be done if a participant wishes to withdraw from the study?

If you choose to withdraw your student from the study/your student chooses to withdraw from the study, please contact the researcher at the email address/phone number included in the next paragraph. Should you choose to withdraw your student or should your student choose to withdraw, data collected from your student will be destroyed immediately and will not be included in this study. Since student data is anonymous (the researcher cannot directly identify a student based on the information provided), you will need to provide the student's initials and last four digits of their student ID so the researcher can destroy their survey.

Whom do you contact if you have questions or concerns about the study?

The researcher conducting this study is TaLonne Gungle. You may ask any questions you have now. If you have questions later, **you are encouraged** to contact her at [REDACTED]. You may also contact the researcher's faculty sponsor, Philip Alsup, at [REDACTED].

Whom do you contact if you have questions about rights as a research participant?

If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher, **you are encouraged** to contact the Institutional Review Board, 1971 University Blvd., Green Hall Ste. 2845, Lynchburg, VA 24515 or email at irb@liberty.edu

Disclaimer: The Institutional Review Board (IRB) is tasked with ensuring that human subjects research will be conducted in an ethical manner as defined and required by federal regulations. The topics covered and viewpoints expressed or alluded to by student and faculty researchers are those of the researchers and do not necessarily reflect the official policies or positions of Liberty University.

Your Consent

If you do not want your student to participate in this study, sign and date the form and return the form to the school. Signing and returning this will release your student from participating in this study. Please note that this form only opts your student out of participating in the survey aspect of this study. Students in participating schools will complete the curriculum with their teacher(s) regardless of the research.

If you have no objections to your child participating in this research, then you do not have to return any form and we thank you for your support.

*I have read and understood the above information. I **do not give permission** for my student to participate in this study.*

Printed Child's/Student's Name

Parent's Name

Parent's Signature

Date

**APPENDIX D: TEACHER SCRIPT FOR *CHILDHOOD CAREER DEVELOPMENT*
*SCALE***

Childhood Career Development Scale Instructions

The following instructions will outline how to administer the *Childhood Career Development Scale* with your students.

1. **Say:** Today you will be asked to complete a demographic survey and *Childhood Career Development Scale*. The entire survey should take you ten to fifteen minutes to complete. You can take longer to finish if you need it. Your participation in the survey is voluntary. If you choose not to participate in the survey, please raise your hand.
2. Provide each student with a copy of the scale.
3. **Say:** In the top left corner, put your initials for your first and last name and the last four numbers of your student ID. Please raise your hand if you need help.
4. Provide any assistance as needed.
5. **Say:** Now, you will complete the demographic survey. This part of the survey will ask you questions about whether you are a boy or girl, how old you are, what grade you are in and if you have an IEP or are in special education. Please complete all the questions.
6. Provide time to complete the questions.
7. **Say:** There are 52 questions to answer. To answer each question, circle the response on the right that you think is true for you. You can choose from strongly agree, agree, uncertain, disagree, and strongly disagree. You may only choose one answer for each question. First, there are practice questions so you can understand how to complete the scale. Please read the question on the left, and circle the answer that is true to you.

Complete all three practice questions. When you are finished, put down your pencil and look up.

8. Provide time to finish.
9. **Say:** Now, it is time to complete the scale. There are 52 questions to answer. To answer each question, circle the response on the right that you think is true for you. You can choose from strongly agree, agree, uncertain, disagree, and strongly disagree. You may only choose one answer for each question. Are there any questions?
10. Answer any questions if applicable.
11. **Say:** You may begin the scale. When you are finished, put down your pencil and look up.
12. Once every student is finished, place the surveys in the provided envelope and return them to the office.

APPENDIX E: PERMISSION TO USE *CHILDHOOD CAREER DEVELOPMENT SCALE*

Re: Childhood Career Development Scale

Donna E Schultheiss

Mon 7/8/2019 1:38 PM

To: TaLonne Gungle

2 attachments (55 KB)

CCDS (US Version) Copyrighted (2).pdf; CCDS - USA Scoring (1).pdf;

Dear Ms. Gungle,

Thank you for your interest in the CCDS. I am attaching the measure and scoring instructions for you to use in your dissertation. We only ask that you do not distribute the measure to others, instead please direct anyone else who is interested in the measure to us. We would also appreciate hearing from you about your results once you are done.

Good luck with your work!

Best Wishes,
Donna Schultheiss

Donna E. Schultheiss, Ph.D.
Associate Dean, College of Graduate Studies
Professor, Counseling Psychology

Fellow, American Psychological Association

From: TaLonne Gungle

Sent: Sunday, July 7, 2019 3:14 PM

To: Donna E Schultheiss

Subject: Childhood Career Development Scale

Dr. Schultheiss,

I am a doctoral student at Liberty University, and I would like to complete my dissertation on a recent West Virginia initiative that involves the combination of project-based learning, career exploration, and simulated workplace in-middle school. I found your work (Childhood Career and Development Scale) when I was researching an instrument to evaluate the career development aspect, but I have not been able to find the questions for scale. Would it be possible for you to share the questionnaire with me or direct me to where it can be found? I would appreciate any assistance you could provide.

TaLonne Gungle

APPENDIX G: DATA TABLES

Table 1

Tests of Normality

	Kolmogorov-Smirnov ^a		
	Statistic	<i>df</i>	Sig.
Information	.099	279	.000
Curiosity/Exploration	.067	279	.004
Interests	.122	279	.000
Locus of Control	.157	279	.000
Key Figures	.101	279	.000
Time Perspective	.129	279	.000
Planning	.116	279	.000
Self-Concept	.137	279	.000

a. Lilliefors Significance Correction

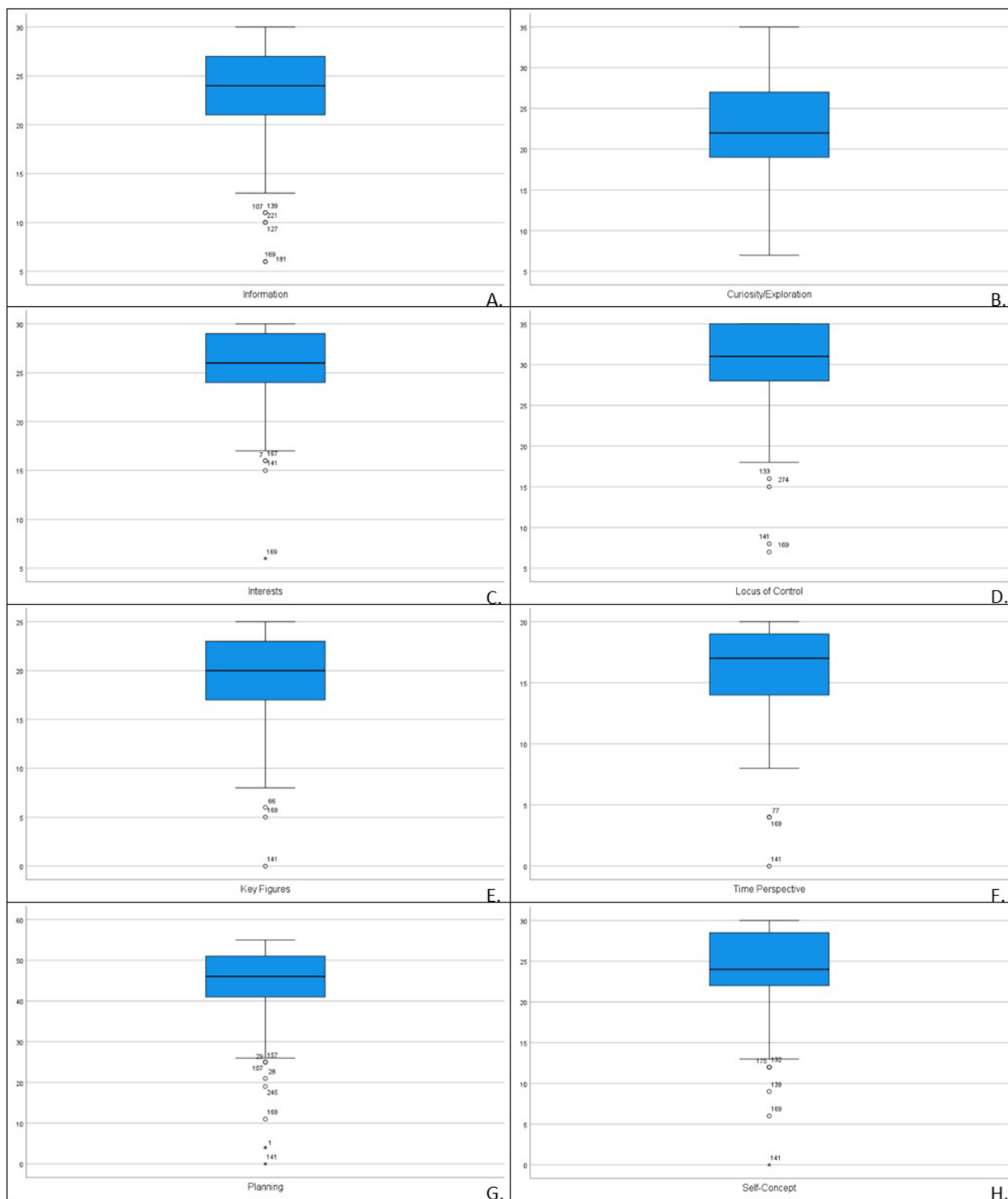


Figure 1. Box-and-whiskers charts for each dependent variable, (A) information, (B) curiosity/exploration, (C) interests, (D) locus of control, (E) key figures, (F) time perspective, (G) planning, and (H) self-concept.

Table 2*Correlations*

		Curiosity/ Information	Exploration	Interests	Locus of Control	Key Figures	Time Perspective	Planning	Self- Concept
Information	Pearson	1	.487**	.168**	.208**	.242**	.378**	.438**	.236**
	Correlation								
	Sig. (2-tailed)		.000	.005	.001	.000	.000	.000	.000
	N	276	276	276	276	276	276	276	276
Curiosity/ Exploration	Pearson	.487**	1	.201**	.276**	.091	.349**	.381**	.162**
	Correlation								
	Sig. (2-tailed)	.000		.001	.000	.132	.000	.000	.007
	N	276	276	276	276	276	276	276	276
Interests	Pearson	.168**	.201**	1	.508**	.368**	.302**	.281**	.474**
	Correlation								
	Sig. (2-tailed)	.005	.001		.000	.000	.000	.000	.000
	N	276	276	276	276	276	276	276	276
Locus of Control	Pearson	.208**	.276**	.508**	1	.269**	.306**	.410**	.392**
	Correlation								
	Sig. (2-tailed)	.001	.000	.000		.000	.000	.000	.000
	N	276	276	276	276	276	276	276	276
Key Figures	Pearson	.242**	.091	.368**	.269**	1	.363**	.260**	.392**
	Correlation								
	Sig. (2-tailed)	.000	.132	.000	.000		.000	.000	.000
	N	276	276	276	276	276	276	276	276
Time Perspective	Pearson	.378**	.349**	.302**	.306**	.363**	1	.572**	.282**
	Correlation								
	Sig. (2-tailed)	.000	.000	.000	.000	.000		.000	.000
	N	276	276	276	276	276	276	276	276
Planning	Pearson	.438**	.381**	.281**	.410**	.260**	.572**	1	.379**
	Correlation								
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000		.000
	N	276	276	276	276	276	276	276	276
Self- Concept	Pearson	.236**	.162**	.474**	.392**	.392**	.282**	.379**	1
	Correlation								
	Sig. (2-tailed)	.000	.007	.000	.000	.000	.000	.000	
	N	276	276	276	276	276	276	276	276

** . Correlation is significant at the 0.01 level (2-tailed).

Table 3*Levene's Test of Equality of Error Variances*

		Levene Statistic	df1	df2	Sig.
Information	Based on Mean	.770	1	274	.381
	Based on Median	.484	1	274	.487
	Based on Median and with adjusted <i>df</i>	.484	1	272.16	.487
	Based on trimmed mean	.544	1	274	.461
Curiosity/ Exploration	Based on Mean	.066	1	274	.797
	Based on Median	.066	1	274	.797
	Based on Median and with adjusted <i>df</i>	.066	1	269.85	.797
Interests	Based on trimmed mean	.065	1	274	.799
	Based on Mean	.382	1	274	.537
	Based on Median	.462	1	274	.497
	Based on Median and with adjusted <i>df</i>	.462	1	274.00	.497
Locus of Control	Based on trimmed mean	.483	1	274	.488
	Based on Mean	9.713	1	274	.002
	Based on Median	8.635	1	274	.004
	Based on Median and with adjusted <i>df</i>	8.635	1	235.27	.004
Key Figures	Based on trimmed mean	9.428	1	274	.002
	Based on Mean	.806	1	274	.370
	Based on Median	.709	1	274	.400
	Based on Median and with adjusted <i>df</i>	.709	1	264.45	.400
Time Perspective	Based on trimmed mean	.719	1	274	.397
	Based on Mean	.319	1	274	.573
	Based on Median	.370	1	274	.544
Planning	Based on Median and with adjusted <i>df</i>	.370	1	273.97	.544
	Based on trimmed mean	.510	1	274	.476
	Based on Mean	.621	1	274	.432
	Based on Median	.665	1	274	.416
Self-Concept	Based on Median and with adjusted <i>df</i>	.665	1	272.76	.416
	Based on trimmed mean	.648	1	274	.421
	Based on Mean	.030	1	274	.862

Based on Median	.006	1	274	.939
Based on Median and with adjusted <i>df</i>	.006	1	270.42	.939
Based on trimmed mean	.002	1	274	.963
