"NOT SO BACKWARDS": A PHENOMENOLOGICAL STUDY ON THE LIVED

EXPERIENCES OF HIGH ACHIEVING POST-SECONDARY STUDENTS WITH

DYSLEXIA

A Dissertation

Presented in Partial Fulfillment of the Requirements for the

Degree of Doctor of Philosophy

with a

Major in Educational Leadership

in the

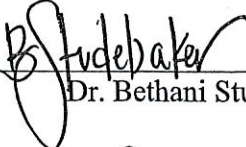Department of Graduate Education

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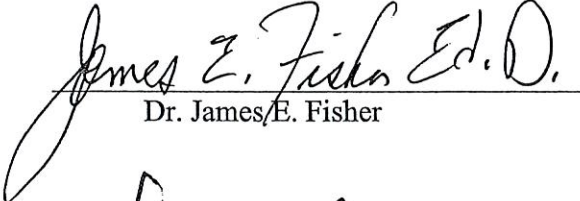

by

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AUTHORIZATION TO SUBMIT DISSERTATION

This dissertation of Christopher Cipolla, submitted for the degree of Doctor of Philosophy in Education with a major in Educational Leadership and titled "'Not so Backwards': A Phenomenological Study on the Lived Experiences of High Achieving Post-Secondary Students with Dyslexia" has been reviewed in final form. Permission, as indicated by the signatures and dates given below, is now granted to submit final copies.

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DEDICATION

I am dedicating this dissertation to my amazing wife, Laine, who served as my support staff, editor, and confidant through this amazing, but rigorous educational process. To my incredible daughters, Chloe and Presley, who have made sacrifices of their own and have been a large part of the dream of continuing education. To my parents, Mike and Carol, who have shown me that hard work does pay off, and the constant belief they have had in me through the darkest of times. To my mother and father in-law, Scott and Jean Martin, for showing me how important education could be. To the friendships made at Northwest Nazarene, as they served as that constant support system that helped me through the most difficult tasks. Finally, to Dr. Bethani Studebaker for inspiring, molding, and instilling the confidence I needed to become the educator and scholar that I am today.

ABSTRACT

Research confirms that dyslexia is the most common form of learning disability that exists in schools today. Continuous dyslexic research has narrowed in on specific characteristics of the disability, yet many dyslexics still struggle academically. The need for additional literature resides within the success stories of dyslexic individuals who have overcome their educational deficits and have persevered in academic arenas. This study examined factors contributing to the academic success of students with dyslexia and their ability to transcend academic barriers as they continue the journey into post-secondary education. Additionally, this study explored the influences of the educational methods, support structures such as family, peer and school mentorship, and coping strategies that might have affected the dyslexic learner's academic performance. This phenomenological qualitative study utilized semi-structured interviews to capture the lived experiences of eight high-achieving students with dyslexia who had recently graduated or were on track to graduate from a post-secondary university. Interview questions were piloted and checked for validity. To ensure information-rich data, purposeful sampling was implemented to create a pool of participants that fit the phenomenon of high-achieving students with dyslexia through dyslexic organizations and the snowballing effect of participants. The findings of this study linked self-knowledge, motivation, child advocacy, and academic skills with the ability for dyslexic students to transcend barriers of learning set by their disability and become high achieving students.

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Chapter I

Introduction

Approximately 45 million students in the United States are said to be dyslexic, yet only five out of every one hundred dyslexics are diagnosed and receive assistance (Dyslexia Research Institute, 2015; Harrar et al., 2014; Siegel, 2006; Zambo, 2004). Dyslexia is considered the most common learning disability, currently accounting for 80% of special education students in the nation. An estimated one in five children are believed to be afflicted by this disability (Harrar et al., 2014; MacCullagh, Bosanquet, & Badcock, 2017; Shaywitz & Shaywitz, 2016; Zambo, 2004). As a result of the significant number of children with dyslexia, classroom teachers and parents are faced with the responsibility of identifying effective instructional and coping strategies in order to address this educational challenge (Baglieri & Knopf, 2004; Ball, 2015; Shaywitz & Shaywitz, 2016; Waddington, Jacob, & Bailey, 1996). The use of multiple strategies and interventions to limit social-emotional and learning barriers is imperative for dyslexic student's academic success (Berman & Stetson, 2018; Burden & Burdett, Catts, 20172005; Mather & Wendling, 2012).

Individuals with dyslexia often experience adversity as children, both academically as well as socially, through exclusion and bullying by peers due to their learning differences (Alexander-Passe, 2015; Locke, Scallan, Mann, & Alexander, 2015; Snowling, 2012). The academic achievement gap between dyslexic and non-dyslexic students is striking. Over one-third of students with dyslexia read at a below basic level and rank in the bottom quartile in academics within their student body (Ferrer et al., 2015; Hudson, High, & Al Otaiba, 2007; Siegel, 2006). Moreover, national trends indicate that approximately 62% of the dyslexics who

read below grade level ultimately drop out of high school (Ferrer et al., 2015; NCES, 2017). The

national average overall GPA is 3.0 and 2.65 in core classes, yet it is reported that students with

dyslexia rank below national average in math, science, English, and social studies (Ferrer et al.,

2015; NCES, 2016). Data provided by the National Center for Education Statistics (NCES,

2017), reflect that 35% of all students who drop out of high school are dyslexic (NCES, 2017).

Those who stay in school typically have low self-esteem and difficulties interacting in social and

academic settings (Al-Lamki, 2012; Reid, 2016; Turunen, Poskiparta, & Salmivalli, 2017).

Additionally, it is estimated that only 2% of dyslexics who enroll in post-secondary education

ultimately graduate with a degree (Al-Lamki, 2012; Lombardi et al., 2016). Students with

dyslexia as a group perform poorly in academics, represent a higher than national average high

school dropout rate, and have low college enrollment and completion rates (Ferrer et al., 2015;

NCES, 2017).

Educators and parents need to implement strategies that positively affect the dyslexic

learner in the classroom (Baglieri & Knopf, 2004; Ball, 2015; Exley, 2003; Sutton & Shields,

2016). Two distinct characteristics of a child with dyslexia are poor reading and decoding skills.

Dyslexic children are often unable to read as many sight words as the average reader (Hudson et

al., 2007; Siegel, 2006). Students with dyslexia also illustrate decoding difficulties while reading

and computing mathematical models (Fletcher, 2009; Hudson, High, & Al Otaiba, 2007; Nash et

al., 2016; Snowling, 2012). As early as first grade, substantial achievement gaps in reading

comprehension and ability, spelling, and sight word recognition between dyslexic and traditional

students begin to appear. These gaps increase with each additional year in school (Ferrer et al.,

2015; Hudson et al., 2007; Siegel, 2006). Students with dyslexia require assistance from

specially trained individuals using multisensory approaches of education to facilitate linguistic

support (Ball, 2015; Harrar et al., 2014; MacCullagh et al., 2017; Mills, 2018). In an effort to sustain significant academic growth in students with dyslexia, it is important to involve diverse strategies of education such as tactile, motor sensory, and auditory forms of education (Harrar et al., 2014; MacCullagh et al., 2017; Mills, 2018; Moats, 2010). For students with dyslexia, achievement is determined by many variables. Many experts believe that students with dyslexia can achieve academic success (Handler, 2016; Shaywitz & Shaywitz, 2016).

Despite the challenges that individuals with dyslexia encounter, research illustrates that this group of students can succeed at equal rates of success as their non-dyslexic counterparts (Cancer, Manzoli, & Antonietti, 2016; Mourgues, Preiss, & Grigorenko, 2014; Taylor, 2014). Students with dyslexia often surpass the educational output in the fields of creativity, analyzation of problem solving, generation of alternative solutions, and the ability to foresee consequences (Cancer et al., 2016; Ehardt, 2009; Mourgues et al., 2014; Taylor, 2014). There is a small population of dyslexics that are exceeding expectations and pushing academic boundaries despite their learning disabilities (Goodey, 2016; Porsteinsson, 2015). The high-achieving dyslexic represents the estimated 2% of students with dyslexia who have successfully gained acceptance into a post-secondary university and graduated with a four-year degree (Al-Lamki, 2012). This unique population has surpassed the larger percentage of dyslexics who are often seen as academic outcasts (Kendall & Taylor, 2016; Shaywitz & Shaywitz, 2016).

Statement of Problem

Individuals with dyslexia make up to 15% of the United States student population, yet roughly only 2% of the students with dyslexia that enroll in post-secondary institutions ultimately graduate (Al-Lamki, 2012; MacCullagh et al., 2017; Redpath et al., 2013; Russak & Hellwing, 2015). Additionally, the national average of graduation rates for persons with

disabilities is 20% lower than the rest of the student population, and 41% of the disabled student population is diagnosed as dyslexic (Balfanz et al., 2014; Brandt & McIntyre, 2016; Newman & Madaus, 2014; Showers & Kinsman, 2017). It is estimated that 35% of students with dyslexia, two times over the national average, drop-out of high school prior to completion (NCES, 2017). Research indicates that there is a disconnect between the number of students diagnosed with dyslexia and those who successfully graduate from high school, enroll in a post-secondary institution, and ultimately earn a college diploma (Al-Lamki, 2012; Brandt & McIntyre, 2016; Redpath et al., 2013; Russak & Hellwing, 2015).

High percentages of dyslexics, many undiagnosed, either do not graduate high school, do not obtain a post-secondary education, or find themselves in the prison population due to the lack of success caused by the absence of strategic implementation strategies or a deficiency in early identification and intervention (Alexander-Passe, 2016; Berman & Stetson, 2018; Catts, 2017). Students with dyslexia' primary difficulties are with reading, writing, and phonological processing (Callens, Tops, & Brysbaert, 2012; MacCullagh et al., 2017). Research has estimated that students with dyslexia make up 2.4% of the university population (Higher Education Student Affairs [HESA], 2015). Once in college, however, many dyslexics continue to struggle due to the large amount of reading and processing that is required. Research confirms that students with dyslexia consistently underperform on written, linguistic, and reading portions of tests when compared to their non-dyslexic counterparts (Callens et al., 2012; Ferrer et al., 2015; Peterson & Pennington, 2012; Shaywitz, Morris, & Shaywitz, 2008). It is estimated that only 2% of the 2.4% of dyslexic learners enrolled in college will ultimately earn a degree (Al-Lamke, 2015; Balfanz et al., 2014; Showers & Kinsman, 2017). Despite such academic barriers, a small

population of dyslexics are finding success within the academic setting (Alexander-Passe, 2017; Berman & Stetson, 2018).

The purpose of this study was to provide insight into the phenomenon of the high-achieving dyslexic student. Indicators used in this study to differentiate high-achieving dyslexics from typical dyslexics include: 1) an earned GPA of 2.5 or greater in university course work, and 2) three or less semesters of coursework left to fulfil degree requirements 3) or have recently graduated from a university. This investigation sought to better understand the factors that impact the success of students with dyslexia and their ability to transcend academic barriers as they continue the journey into post-secondary education. Additionally, this study examined the influences of the educational methods, support structures such as family, peer, and school mentorship, and coping strategies that might have affected the dyslexic learner's academic performance.

Background

Dyslexia is the most common as well as most studied learning disability in the United States, accounting for 80% of all leaning disability diagnosis (Handler, Fierson, Rainey, & Cooper, 2016; Shaywitz et al., 2008). Despite the number afflicted and the sheer amount of studies conducted, there are varying degrees of knowledge about why certain dyslexics are able to succeed and overcome the disabling effects of their condition. Dyslexia is a neurological disorder that affects the reading, cognition, comprehension, and spelling abilities of this population (Berninger, Lee, Abbott & Breznitz, 2011; Catts, 2017; Harrar et al., 2014; Norton, Beach, & Gabrieli, 2015; .Siegel, 2006; Zambo, 2004). To fully understand the learning disability of dyslexia, it is important to first look at the individuals behind the struggles and then look toward scientific research connected to the disability.

Dyslexia is caused by the underutilization of the left hemisphere and a defective central bridge of tissue in the corpus callosum, which is a section of the brain connecting both hemispheres and made up of a dense strand of nerve fibers (Berninger et al., 2011; Harwell & Jackson, 2008; Mascheretti et al., 2017; Moats, 2010). Individuals with dyslexia are characterized as performing below average on decoding skills, reading fluency, and reading comprehension (Fletcher, 2009; Harwell & Jackson, 2008; Moats, 2010; Peterson & Pennington, 2012). Through new brain imaging techniques, scientists can now test the theory that dyslexia is a brain disorder caused by the inability of information to travel from one area of the brain to another (Haspel, 2016; Shaywitz & Shaywitz, 2016). Neurological research states that the educational disabilities of students with dyslexia could be linked to structural differences within an important information highway between the frontal lobe, angular gyrus, and the temporal lobe in the brain (Norton et al., 2015; Mascheretti et al., 2017; Shaywitz et al., 2008). Figure 1 shows the brain and interconnected highways in which cognitive processing, reading skills, and linguistic spelling ability travel to the necessary parts of the brain.

Figure 1

Non-Dyslexic Brain vs. Dyslexic Brain When Reading
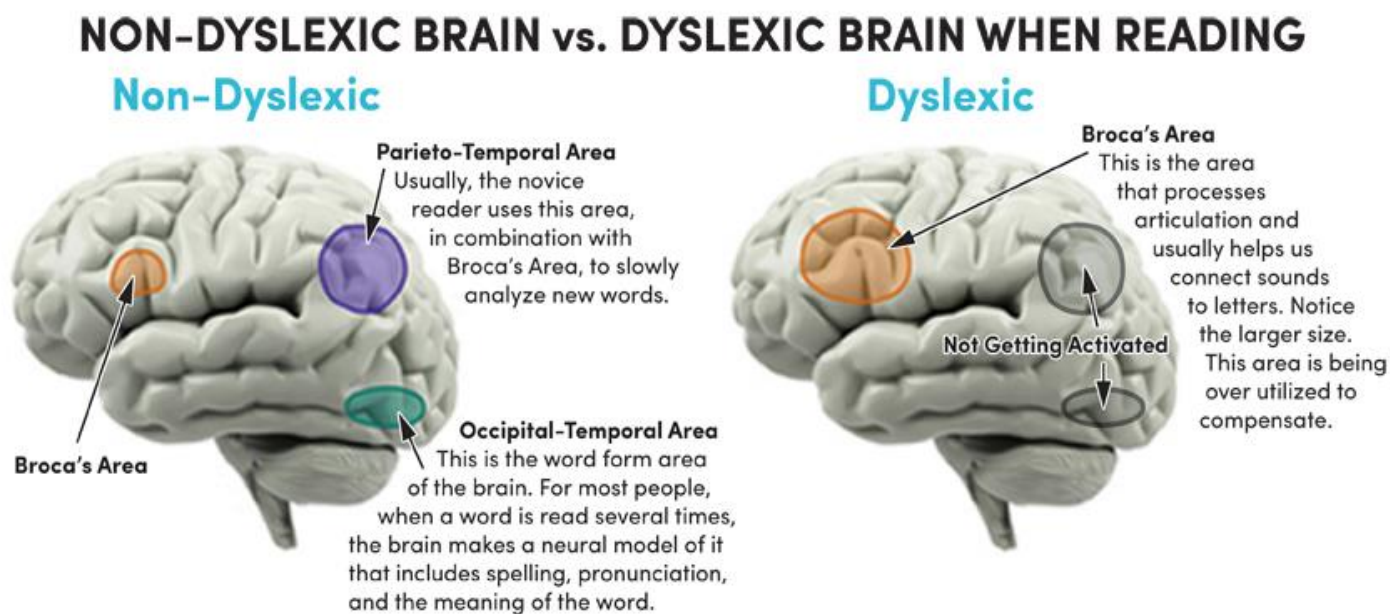
Note, From See to Spell "Non-Dyslexic Brain vs. Dyslexic Brain When Reading" by Shawn Denise Cunningham 2018. (http://www.seetospell.com). Reprinted with permission (Appendix J).

Students with dyslexia who exhibit characteristics of giftedness tend to learn best through a visual-spatial learning style (Dyslexia Research Institute, 2015; Giovagnoli, Vicari, Tomassetti, & Menghini, 2016; Silverman & Freed, 1991). Traditionally, schools have been designed for the auditory-sequential learners. The auditory-sequential learner academics strengths consist of reading, writing, spelling, calculation, memorization, and perform well under timed conditions. The traditional school design that is built upon an auditory-sequential framework does not

benefit the dyslexic learner (Elkabariti, Shalaby, Khalil, Mahmoud, Nada, & Khattab, 2017; Reid, 2016; Waddington et al., 1996). Many teachers and educational entities do not have research-backed data to show which instructional methods work best with the dyslexic population, nor do they know the direct benefits of using such methods (International Dyslexia Association, 2012).

When dyslexic individuals attempt to read, the front portion of their brain, or left cortex, is over-stimulated while crucial portions in the center and back of the left side of the brain are under-stimulated (Mascheretti et al., 2017; Peterson & Pennington, 2012; Snowling, 2012; Waddington et al., 1996). These challenges impact spelling and the development of reading and linguistic skills and cause a roadblock that impedes information from being processed. It is important to note, however, that below average intelligence is not correlated to dyslexia (Peterson & Pennington, 2012; Snowling, 2012; Waddington et al., 1996). In fact, many students with dyslexia are gifted with creativity and the ability to succeed given the right support structures that enhance their academic chances for success (Cancer et al., 2016; Shaywitz et al., 2008).

In its infancy, researchers believed that dyslexia was only the inability to correctly transcribe letters (Fletcher, 2009; Harwell & Jackson, 2008; High et al., 2007). In the early 1900's children with reading difficulties were automatically labeled as dyslexic (Reid, 2016; Shaywitz et al, 2008). The problem with this diagnosis was that dyslexia goes beyond poor reading levels. Children's reading levels range sporadically during the first few years of elementary school for a variety of reasons. Researchers now define dyslexia as a learning disability characterized by literacy difficulties including, reading, comprehension, lexicon processing, and spelling (Peterson & Pennington, 2012; Reid, 2016; Siegel, 2006; Snowling,

2012). Individuals who are dyslexic do not inexorably suffer from a lack motivation toward academics, a lack of intelligence, or vision or hearing problems that would hinder their schooling. Dyslexics do, however, suffer from a genetic, neurological disorder that interrupts the pattern of thought between the brain and lexicon processors (Reid, 2016; Shaywitz et al., 2008).

Dyslexia is a learning disability that is a lifelong condition. However, with proper help, many people with dyslexia can enhance their ability to read, spell, and comprehend linguistic material sufficiently (MacCullagh et al., 2017; Snowling, 2012; Siegel, 2006). It is of paramount importance to identify dyslexia early in hopes of allowing academic success to take root (Catts, 2017; Earey, 2013; International Dyslexia Association, 2012; Lasley, 2009; Reid, 2017). Despite the obvious need for early detection as well as implementation of dyslexic aiding strategies, little is done to modify the general classroom setting in order to benefit students with dyslexia. It is imperative that the education of students with dyslexia include proper accommodations and modifications for the purpose of the enhancement of student comprehension (Waddington et al., 1996; Zorzi et al., 2012). Accommodations assist the learner by implementing strategies to assist the student such as the use of listening devices or extra time on assignments; whereas modifications change what the child is expected to learn such as assigning shorter readings or limited homework (Newman & Madaus, 2014; Showers & Kinsman, 2017). By exploring the most impactful interventions, teachers with students with dyslexia can better equip themselves for the academic improvement of the dyslexic student.

Dyslexics often develop ways of compensating for their disability. Research states that students with dyslexia abilities are enhanced through differentiated instruction, addition of graphic organizers, modeling, blocking out of extra stimuli, highlighting important information, shortened assignments, inclusion support, and the use of technology (Mercer, 2002; Siegel,

2006). Researchers have expanded the scope of strategies deemed as significantly effective for dyslexic learners by adding phonics techniques, word assimilation strategies, peer grouping, and cooperative learning communities (Ball, 2015; Harwell & Jackson, 2008; Peterson & Pennington, 2012; Torgensen, Wagner, Rashotte, Herron, & Lindamood, 2009).

According to the NCES (2017), 59% of the United States' population earned a bachelor's degree. Today an increasing number of students with dyslexia enter college due to better systems of guidance, accommodations, and modifications throughout their primary and secondary education (Callens et al., 2012; Reedy, 2017). However, only 2% of the dyslexic population reach and graduate from a post-secondary university (Al-Lamki, 2012; Brandt & McIntyre, 2016; Redpath et al., 2013; Russak & Hellwing, 2015). Through research studies and the continued development of academic programs geared at assisting the dyslexic learner, the dyslectic community has shown their ability to succeed at a high academic level. A dyslexic student often possesses a higher rate of creativity than their nondyslexic counterparts (Cancer et al., 2016; Gobbo, 2010.) Representing the largest percentage of learning disabilities, dyslexia is responsible for much of the reading, comprehension, and spelling deficiencies that appear in many individual's life (Siegel, 2006; Torgensen et al., 2009; Zambo, 2004). Throughout the 1900's and 2000's much has been learned about dyslexia, yet little is known about what makes some dyslexics fail and others succeed (Malpas, 2017; Reid, 2016; Gobbo, 2010).

Research Questions

The purpose of this investigation was to provide insight into the phenomenon of the high achieving dyslexic student. Social learning theories that include facilitating structures and coping mechanisms can aid in the development and academic achievement of the dyslexic population (Bandura, 2016). A qualitative phenomenological study was used to explore the lived

experiences of eight high-achieving students with dyslexia and to examine the factors that

contributed to their successful enrollment and academic success in post-secondary education.

Several worthy research questions were constructed to guide the research as well as provide

focus toward an educational methodology geared toward students with dyslexia' academic

success (Creswell, 2014; Marshall & Rossman, 2016; Yin, 2014). Four questions were posed:

1. To what do high achieving students with dyslexia attribute their academic success?

2. To what extent do students with dyslexia feel the support from family, teachers, and peers

    contributed to their academic success?

3. How does the understanding of their learning disability impact the academic success of

    students with dyslexia?

4. How do students with dyslexia overcome the academic challenges encountered as a result

    of their learning disability?

Description of Terms

The necessity to create a clear and precise understanding of the vocabulary is based upon

the ever-changing characteristics and the experimental data of dyslexia that have been utilized

in this study. Generating a description of terminology adds clarity in a research study that

involves many scientific and educational vocabulary unique to those fields (Creswell, 2014;

Marshall & Rossman, 2016). Though the understanding of these subject specific terms, a better

insight of the research can be gained.

Academic performance/success. A student's ability to blend intellectual ability,

motivation, and preferred learning styles together in the culmination toward a successful

extrinsic factor such as grades (Cachia et al., 2016; Mihaela, 2015)

Accommodations. Strategies used within education to assist struggling learners and improve their comprehension of material (Newman & Madaus, 2014; Showers & Kinsman, 2017).

Bracketing. A researcher format that is used to remove predispositions and personal experiences throughout the data collection process and place the participant at the pinnacle of the research (Chan, Fung, & Chien, 2013; Peters & Halcomb, 2015).

Coding. In qualitative studies, it is the process in which the researcher organizes and sorts the data into themes (Padgett, 2016; Richards, 2014; Saldaña, 2015).

Cooperative learning communities. A method of learning and teaching in which students' education is enriched by a group setting of education (Ball, 2015; Harwell & Jackson, 2008; Peterson & Pennington, 2012; Torgensen et al., 2009).

Decoding skills. The process of translating a written or typed word into a sound (Catts, Herrera, Nielsen, & Bridges, 2015; Keenan, Betjemann, & Olson, 2008; Nelson, Lindstrom, Lindstrom, & Denis, 2012).

Differentiated instruction. A type of education that refers to a wide variety of teaching and learning lessons used to engage a wide variety of students. Differentiated instruction is a key component in today's lesson cycle in fulfilment of the goal of engaging all students (Arrow, Chapman, & Greaney, 2015; Exley, 2003; Baglieri & Knopf, 2004).

Dyslexia. A disorder primarily affecting reading and spelling development, usually associated with impairments of phonological processing, verbal processing speed, and verbal short-term memory (Al-Lamki, 2012, Berninger et al., 2013; Snowling, 2012).

Educational methods. Encompasses the different ideologies and approaches used by educators to support the learning and growth of student (Elliot, 2015; Thomas & Green, 2015).

Gray brain matter. The section of the brain that is responsible for processing sound structure and language (Farah, Schmithorst, Keith, & Holland, 2014; High et al., 2007; Wylie, Weber, Sacchetti, Acosta, & Genova, 2017).

High-achieving student. As defined by the researcher for the purpose of this study, a high-achieving student is one that is currently on track to graduate or has recently graduated from a post-secondary university with three semesters or less of coursework remaining, or have recently graduated, and has earned at least a 2.5 GPA at the university level.

Inclusive support. Refers to the support given to a child with disabilities that has been placed into a general education class. Examples of such support features are notetaking assistance, recording of class lectures, copies of teacher notes, and sign language (Alias & Dahlan, 2015; Hulme, Nash, Gooch, Lervag, & Snowling, 2015).

Journaling. A process of logging entries that depicts the way the researcher is avoiding or implementing strategies to relieve or eliminate bias in their research (Chan et al., 2013; Creswell, 2014; Marshall & Rossman, 2016).

Language Experience Approach (LEA). A systematic method of literacy education focusing on a child's existing experience of language (Ball, 2015; Harwell & Jackson, 2008; Peterson & Pennington, 2012; Torgensen et al., 2009).

Learning disability. A disorder associated with one's ability to acquire knowledge. Knowledge and skills of individuals with a learning disorder fall below other individuals of the same age (Harwell & Jackson, 2008; Wessel & Spears, 2015).

Lexicon processing. A common term referring to the processing of single words, characteristically in the context of visual or auditory word recognition (Carroll, Solity, & Shapiro, 2015).

Lindamood Phoneme Sequencing Program (LIPS). A program that has been developed using phonemic awareness, reading, spelling, and speech. Participants of the program discover the physical characteristics of each phoneme and use this kinesthetic feedback to verify sounds within words (Torgensen et al., 2009).

Linguistic skills. Skills that are associated with the structure of language including the physical aspects of sounds, the cognitive aspects of sounds, and the formation of words (Hogan, Adlof, & Alonzo, 2014).

Member checking. A technique used in qualitative research that seeks to explore the credibility of the interview results (Birt, Scott, Cavers, Campbell, & Walter, 2016; Henwood, 2014).

Modifications. An education systems ability to reduce curriculum for students with special needs and learning disabilities (Newman & Madaus, 2014; Showers & Kinsman, 2017).

Multisensory approach. The differentiation of material into different modalities that is geared toward student's preferred learning style. The various learning styles are visual, auditory, kinesthetic, and tactile (Baglieri & Knopf, 2004; Harrar et al., 2014; MacCullagh et al., 2017; Mills, 2018).

Multisensory education. A type of educational philosophy that draws on presenting information to students via three modes of senses: visual (sight), auditory (listening), and tactile (touch) (Oakland, Black, Stanford, Nussbaum, & Balise, 1998).

Neurobiology. A branch of science that deals with the anatomy, physiology, and pathology of the nervous system (Haspel, 2016).

Neuroimaging. The science of the production of images of the brain or other parts of the nervous system by techniques, such as magnetic resonance imaging or computerized tomography, that gauge activity (Haspel, 2016).

Neuropathologist. A physician concerned with diseases of the nervous system and brain function (Haspel, 2016).

Phenomenological study. A type of qualitative research that places emphasis on describing a "lived experience" of a phenomenon (Anderson, 2010; Creswell, 2013; Eddles-Hirsch, 2015; Maxwell, 2015; van Manen, 1990).

Phonics. A technique of literacy and reading education that uses correlating sounds with letters or groups of letters in an alphabetic writing system (Ball, 2015; Harwell & Jackson, 2008; Peterson & Pennington, 2012; Torgensen et al., 2009).

Post-secondary education. The education that is obtained after high school. This education can be trade or academically based. For this research we are looking at academic post-secondary education (Lombardi et al., 2016).

Reading for Life (R4L). A linguistic program designed towards providing phonic assistance to strengthen vocabulary and reading abilities (Hornery, Seaton, Tracey, Craven & Yeung, 2014; Torgensen et al., 2009).

Reading comprehension. The ability to read, process, and comprehend textual meaning (Hornery et al., 2014; Torgensen et al., 2009).

Reading fluency. The rate at which an individual is able to accurately process written information. Aspects of reading fluency may include decoding fluency, processing speed, vocabulary, letter sound fluency, and sight word fluency (Hudson, Lane, Pullen, & Torgesen, 2009; Stevens, Walker, & Vaughn, 2016).

Read Write Type (RWT). A linguistic program that provides explicit instruction and practice in phonological awareness, letter sound correspondences, and phonemic decoding, but does so primarily in the context of encouraging children to express themselves in written language. In this program, children spend a greater proportion of their time processing meaningful written material, and they are encouraged to acquire "phonics" knowledge to enable written communication (Exley, 2003; Harwell & Jackson, 2008).

Reflexivity. A commonly used research tool in qualitative investigations that helps legitimize, validate, and question research practices and representations to avoid bias (Berger, 2013; Pillow, 2010; Silverman, 2016).

Self-efficacy. One's belief in one's ability to succeed in specific situations or accomplish a task (Bandura, 2012).

Semi-structured interviews. A common form of qualitative questioning that allows the participant to openly answer questions beyond the yes or no response, but formatted enough to keep the interviewee aligned to the research at hand (Maxwell, 2015, Creswell, 2008).

Social learning theory. A theory that states that learning is a cognitive process that takes place in a social context and can occur purely through observation or direct instruction, even in the absence of motor reproduction or direct reinforcement (Bandura, 1977).

Universal design for learning. Innovations in pedagogy that are intended to enhance the educational experiences and outcomes of learners (Armstrong, 2012; Katz & Sokal, 2016; Reid, Strnadova, & Cumming, 2013).

Visual-spatial learning style. Lessons and a method of thinking designed around learning through picture representation and visual stimulation, rather than gaining knowledge

linguistically (Dyslexia Research Institute, 2015; Giovagnoli et al., 2016; Silverman & Freed, 1991).

White brain matter. Brain matter that is composed of bundles of myelinated nerve cell axons, which connect numerous gray matter areas of the brain to each other. These areas of the brain are given the duty of carrying nerve impulses between neurons (Farah et al., 2014; High et al., 2007; Wylie et al., 2017).

Significance of the Study

The significance of this study was to uncover the phenomenon of high achieving dyslexic learners. Struggling dyslexic learners will benefit from the knowledge gained. Research on the dyslexic learner is forever changing and has increased since its early identification in 1937 (Fletcher, 2009; Harwell & Jackson, 2008; High et al., 2007). Looking at the success rate of a very minute population within the dyslexic community could provide a framework for struggling dyslexics and help them overcome academic barriers.

This investigation, as depicted in figure 2, looks at the high-achieving dyslexic and how social learning, including coping skills, self-efficacy, and structured assistance such as peer, family, and school groups can aid toward academic success.

Figure 2

Aspects of the Dyslexic High Achiever
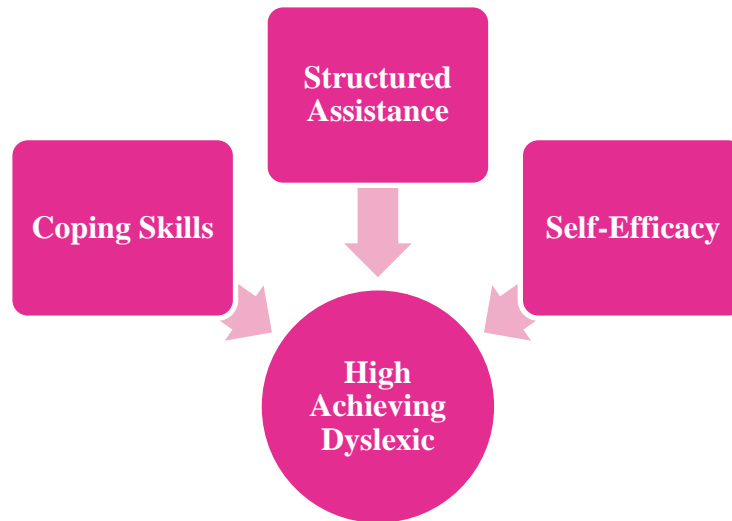
Note. Summary from "Dyslexia and the brain: What does current research tell us?," by R. F. Hudson, L. High, and S. Al Otaiba, 2007, *The Reading Teacher, 60*(6), 506-515.

Understanding coping mechanisms and support groups that have transcended the struggling dyslexic student into one that can be labeled as a high-achieving student is at the pinnacle of this study. The findings of this study may give educators assistance in combatting the plague of low academic skills that dyslexia produces in many subjects. With very little research discussing the positives about dyslexia, many researchers have superimposed the data on how students with dyslexia struggle and are full of low achievement (Ellis, McDougall, & Monk, 1996; Fletcher, 2009; Goldstein & Obrzut, 2001; Peterson & Pennington, 2012; Siegel, 2006; Snowling, 2012). This study may fill gaps in the professional literature on the academic development of individuals diagnosed with dyslexia and how specific coping strategies, support systems, and self-efficacy affects their academic success. Information gathered from interviews with high achieving dyslexics and their phenomenological stories may create a pattern of success that

facilitates growth for the many students with dyslexia struggling today. In addition, the study results may be useful for educators as well as parents of children with dyslexia.

Theoretical Framework

The theoretical framework that was chosen to guide this research study was Bandura's social learning theory. Bandura's social learning theory states that people can overcome obstacles though modeling, developing coping strategies, and self-efficacy development (Bandura, 1977). The behavioral factors of Bandura's self-efficacy theory include skills and beliefs in one's ability to succeed in specific situations or accomplishing of tasks (Bandura, 2012). As depicted in Figure 3, the theory of social learning triangulates around the philosophies of cognitive factors, environmental factors, and behavioral factors (Bandura, 1977). The social learning framework looks at how individuals perceive themselves and their capabilities when faced with obstacles. Additionally, this theory factors in how the environment interacts with learning. Figure 3 illustrates that environment is a key component to the social learning theory. Environmental factors include social norms, and community influences (Bandura, 2012). The three-way relationship of Bandura's social learning theory is completed by cognitive personal factors. These cognitive personal factors include but are not limited to knowledge, expectations, and attitudes of learning (Bandura, 2012). The barrier in this study was the learning disability of dyslexia.   The investigation of this research looked at how high achieving students with dyslexia are impacted by positive social reinforcements; especially modeling, coping skills, support structures, and achievements through learned experiences.

Figure 3

Bandura's Social Learning Theory
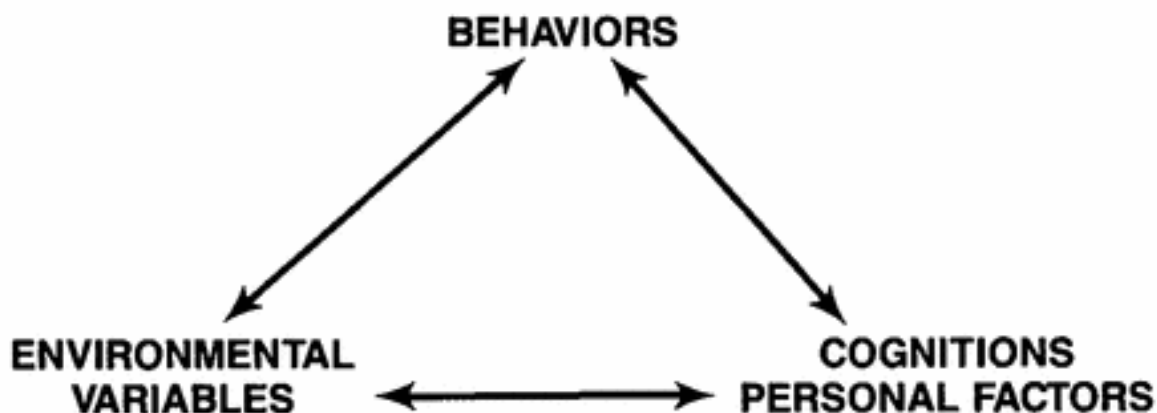
Model of Social Learning Theory by A. Bandura (1977). Permission Granted (Appendix K)

Students think about the relationship and process the information between their behavior and its consequences (Bandura. 2012). Necessary learning through observation and modeling depends on an active process of cognition to be successful (Bandura, 2012). Social learning is the process of student's attention, retention, reproduction, and motivation. Students do not automatically notice the behavior of a positive model, however with engaged thought prior to imitation, along with motivation for success, the social learning theory can become a positive factor in the overcoming of academic barriers (Bandura, 2012).

Overview of Research Methods

The research methods can be considered the "blueprint" used to ensure that the investigation clearly addresses the research questions (Bogdan & Biklen, 2007, Creswell, 2013; DiCicco-Bloom & Crabtree, 2006). Qualitative research is conducted when a deep understanding is sought regarding a phenomenon (Creswell, 2013). For this study, a phenomenological qualitative research approach was used to investigate exceptionalities of high

achieving dyslexics over academic barriers caused by their learning disability. The goal of phenomenological research is discovering the perceptions of individuals and developing an understanding of how individuals perceive an experience (Englander, 2012). Creswell (2015) defines qualitative research as "an intricate fabric composed of minute threads, many colors, different textures, and various blends of material" (p. 48). In this summation of qualitative research, Creswell has likened the unique stories and lived experiences to an elaborate blanket that, when combined, creates a beautiful product.

Through the use of purposeful sampling, eight high achieving students with dyslexia were recruited to take part in a series of semi-structured interviews. The participants met the predetermined criteria of being currently on track to graduate from a post-secondary university, with three semesters or less of coursework remaining, or have recently graduated, and had earned at least a 2.5 GPA at the university level. The use of semi-structured interviews allowed for participants' voices to be captured and drove the focus of the study (Creswell, 2008; Maxwell, 2015). Prior to conducting any interviews, a pilot study with two participants having similar characteristics as the study's participants took place. The interviews of the successful high achieving dyslexics were recorded, transcribed, and coded to discover common themes and to draw conclusions between the various interviews.

Due to the research topic and the personal nature of the interview process, ethical guidelines were strictly followed and adhered to. DiCicco-Bloom and Crabtree (2006), established a set of guidelines for considering an ethical approach to interview questions:

1. reduce the risk of unanticipated harm

2. protect the interviewee's information

3. effectively inform interviewees about the nature of the study

4. reduce the risk of exploitation.

The interview process is a critical part of all phenomenological studies and was fulfilled with the participants' best interests placed at the forefront of this investigation.

Chapter II

Review of Literature

Introduction

Students with dyslexia represent between 10% and 15% of the population (Dyslexia Research Institute, 2015; Harrar et al., 2014; Siegel, 2006; Zambo, 2004). An estimated one in ten children are believed to be afflicted by this disability and often struggle in school due to their low levels of reading and comprehension of written material (Harrar et al., 2014; MacCullagh et al., 2017; Shaywitz & Shaywitz, 2016; Zambo, 2004). Many students with dyslexia do not academically succeed in school, creating both an education and social gap between themselves and their non-dyslexic counterparts (Alexander-Passe, 2016; Hewitt-Mann, 2012). Dyslexic student's academic difficulties stem from poor reading, writing, and phonological processing skills (Callens et al., 2012; MacCullagh et al., 2017). Due to this disconnect from academic skills, it is estimated that 35% of students with dyslexia, drop out of high school prior to completion (NCES, 2016, 2017).

Many students with dyslexia, however, have an average or above average IQ, which should culminate in a higher academic achievement level than is currently being attained by this population (Fletcher, 2009; Harrar et al., 2014; Kelly & Phillips, 2016; Mills, 2018; Siegel, 2006; Zambo, 2004). There are students with dyslexia who are achieving academic success despite their learning disability and deficiency in reading. An estimated 45 million students in the United States are dyslexic, yet only 2% of those students graduate from a post-secondary university (Al-Lamki, 2012; Brandt & McIntyre, 2016; Redpath et al., 2013; Russak & Hellwing, 2015). The idea that students with disabilities can overcome academic barriers and become high achieving lends itself to Bandura's (1977) social learning theory.

The purpose of this investigation was to examine the lived experiences of high-achieving, post-secondary students with dyslexia to determine how they have overcome academic barriers. The literature review incorporates vast selections of research as it pertains to dyslexia. An exploration of students with dyslexia' academic achievement was explored through: (1) the history and statistical information of dyslexia; (2) characteristics of dyslexia and the profile of the dyslexic learner; (3) dyslexia in the classroom setting and the importance of early detection; (4) teaching students with dyslexia and the importance of social learning; and (5) instructional strategies for the dyslexic learner. Bandura's social learning theory served as the theoretical framework for this study. The review of literature blends the topic of high-achieving dyslexics into three distinct areas: historical context of special education and the dyslexic population; current information and implementation strategies used with dyslexics; and needs assessment of social learning skills used to enhance dyslexic achievement. An analysis of the literature provides for a comprehensive understanding of the historical context, current information on policy implementation, and proposes avenues for future research (Ngai, Moon, Riggins, & Candace, 2008; Webster & Watson, 2002).

Theoretical Framework

The theoretical framework that was chosen for this investigation was Bandura's social learning theory which states that people can overcome obstacles through modeling, enhancing coping strategies, or their knowledge of self-efficacy (Bandura, 1977). As depicted in Figure 4, self-efficacy impacts students' performance outcomes, vicarious experiences, philological feedback, and verbal persuasion (Bandura, 1977; Van De Ridder, Peters, Stokking, Ru, & Cate, 2014). The barrier in this study is the learning disability of dyslexia. The review of literature has uncovered a bounty of information of how Bandura's social learning theory improves adverse

learner's abilities. Children learn as part of a social reinforcement that can either be modeled or taught (Bandura, 1977). The idea of the social learning theory can lend itself to provide important structure to dissertations discussing learned behaviors. Social modeling, as it pertains to providing a guide to overcoming academic barriers, needs a representational process that transforms the modeled behavior into a symbolic representation that can be recalled (Bandura, 2016). According to social learning theory, behavior is a result of imitation, modeling, and learning (Baer & Bandura, 1963). Children are a product of their environment and are sponges for both negative and positive actions (Baer & Bandura, 1963). Many classrooms today do draw upon Bandura's theory to increase academic abilities, moving away from the traditional classroom where students sat in rowed desks and were told to open their books and read silently. The idea of modeling, facilitating, and providing examples are how classrooms are being molded today. In accordance with Bandura's theory, learning would not occur without a complex interplay between inner processes such as coping skills, self-efficacy, and environmental influences such as support systems (Baer & Bandura, 1963). This is the same theory educators are applying to change academic abilities in low achieving students.

Students mimic behavioral models throughout the school day. Academic success can be a learned trait just as swinging a golf club or performing surgical operations (Baer & Bandura, 1963). The social learning theory shares philosophical attributes with Freud, Erickson, and Gesell that suggest personality and abilities can be altered though learned inner processes and environmental influences (Baer & Bandura, 1963).

History and Statistical Information of Dyslexia

Dyslexia has been called 'word blindness,' phonological awareness deficit, double deficit, and visual deficit disorder (Berman & Stetson, 2018; Orton, 1925; Snowling, 2012;

Volkmer & Schulte-Körne, 2018). To understand the present, one must study the past. In the beginning, there were varying views on what dyslexia was and the characteristics of the disorder (Fletcher, 2009; High et al., 2007; Harwell & Jackson, 2008; Reid, 2016; Snowling, 2012). It was not until 1937 that Samuel Orton, a neuropathologist, began studying reading problems in young students. Orton's (1925) research included hundreds of participants who all became a part of the eponymous Orton Dyslexic Society.

In early definitions of dyslexia, subjects were mirror imaging words such as was and saw (Fletcher, 2009; Harwell & Jackson, 2008; High et al., 2007; Norton et al., 2015). Since the first diagnosis of dyslexia, however, researchers have gained insight into the learning disability that hampers many below average readers in today's society (Ellis et al., 1996; Fletcher, 2009; Goldstein & Obrzut, 2001; Norton et al., 2015; Peterson & Pennington, 2012; Siegel, 2006; Snowling, 2012). Dyslexia was first believed to be a learning condition that affected individuals reading abilities despite the presence of average intelligence, conventional instruction, and socioeconomic status (Dyslexia Research Institute; 2015; Harwell & Jackson, 2008; Orton, 1925).Within the past 25 years, there have been many studies and journal articles about dyslexics supporting the fact that their IQ is average to sometimes above average (Fletcher, 2009; Snowling, 2012). Perhaps no other reading disability has received more widespread attention than dyslexia; however, the recognition of the disorder rarely went past defining people as backwards writers (Goldstein & Obrzut, 2001; Nistler & McMurry, 1993).

Dyslexia is a neurobiological abnormality in the brain (Catts, 2017; High et al., 2007; Lasley, 2009; Norton et al., 2015; Reid, 2017). This abnormality causes slow developmental cognition of written skills. Today, dyslexia is characterized as being a neurodevelopmental disorder that results in impeded word recognitions and inaccuracies (Ellis et al., 1996; Fletcher,

2009; Peterson & Pennington, 2012; Siegel, 2006). Dyslexia is a reading disability whose population has a significant disadvantage with word recognition, spelling, and reading comprehension (Ellis et al., 1996; Fletcher, 2009; Goldstein & Obrzut, 2001; Peterson & Pennington, 2012; Siegel, 2006). Many students with dyslexia enter the classroom with obvious detriments to their reading and comprehension abilities. A lack of reading comprehension and skills often results in students with dyslexia being grouped within the poor reading spectrum. However, dyslexics often have poor spelling and a disconnect between lexicon processing which are telltale signs of their disorder (Goldstein & Obrzut. 2001; Siegel, 2006).

Despite much of Orton's work defining the early diagnosis of dyslexia and creating the standards for characterizing the disorder, by the 1960's students with dyslexia were thought to have low intelligence and were often secluded in classrooms for the educationally retarded (Harwell & Jackson, 2008). Several early classifications have deemed dyslexia as a type of retardation, shunning those who have been plagued by the disorder. Numerous researchers have refuted this statement, and added that there is no meaningful data that proves students with dyslexia have a low IQ (Fletcher, 2009; Peterson & Pennington, 2012; Snowling, 2012). Being dyslexic does not create boundaries in which an affected students could not have a higher than average IQ either. Dyslexia is a difficulty with language processing, not with intellectual abilities (Fletcher, 2009; Snowling, 2012; Waddington et al., 1996). The dyslexic disorder occurs across the IQ spectrum, and, in fact, there are dyslexics that are rated as very intelligent (Fletcher, 2009; Snowling, 2012; Waddington et al., 1996).

Dyslexia occurs across all races, genders, and socioeconomic groups. Even though the dyslexic disorder is not biased to any one gender or race, there is statistical analysis that shows trends of who is most often diagnosed with dyslexia. It is important to note that dyslexia

commonly appears in family genetics (Leavett, Nash, & Snowling, 2014; Shaywitz et al., 2008).

Research suggests that up to 65% of children who have a parent with dyslexia will also show

signs of the learning disorder, and 40% of siblings share the dyslexic gene (Leavett et al., 2014;

Shaywitz et al., 2008). Research has also revealed that dyslexia appears more commonly in

certain impoverished homes in which education is not set as a priority (Duncan & Seymour,

2000; Hornickel & Kraus, 2013). Adversely, in homes where strong literacy practices are

applied, scientific research states that the brains of dyslexic children undergo a transformation by

creating new neural pathways for reading (Shafer, 2017).

Dyslexia affects up to one in five children, and, as depicted in figure 4, is the most

common form of learning disability, currently accounting for 80% of special education students

in the nation (Al-Lamki, 2012; Harrar et al., 2014; Zambo, 2004). Figure 4 captures the

percentage of dyslexics when compared to other learning disabilities. Dyslexia has also been

shown to affect up to 65% of the offspring of parents who are dyslexic (Al-Lamki, 2012; Kraft et

al., 2015). Four million adults in the United States are dyslexic but only two million have been

properly diagnosed and tested for their disorder *(*Reid, 2017; Teixeira, Brunoni, Carreiro, Braga,

Silva, & Paula, 2017). Moreover, the number of post-secondary students that declared having a

learning disability/dyslexia increased from 8,370 to 32,655 between 1999 and the school year of

2009-10 (Mortimore, 2012). This increase of over 70% has left universities scrambling to

implement strategies and accommodations to address the huge influx of participants (Dong &

Lucas, 2016; Yenney & Sacco, 2016). With the number of students with dyslexia on the rise, it

is increasingly important to identify how students with this learning disability overcome

academic challenges.

Figure 4

Percent of Learning Disabilities who are Dyslexic
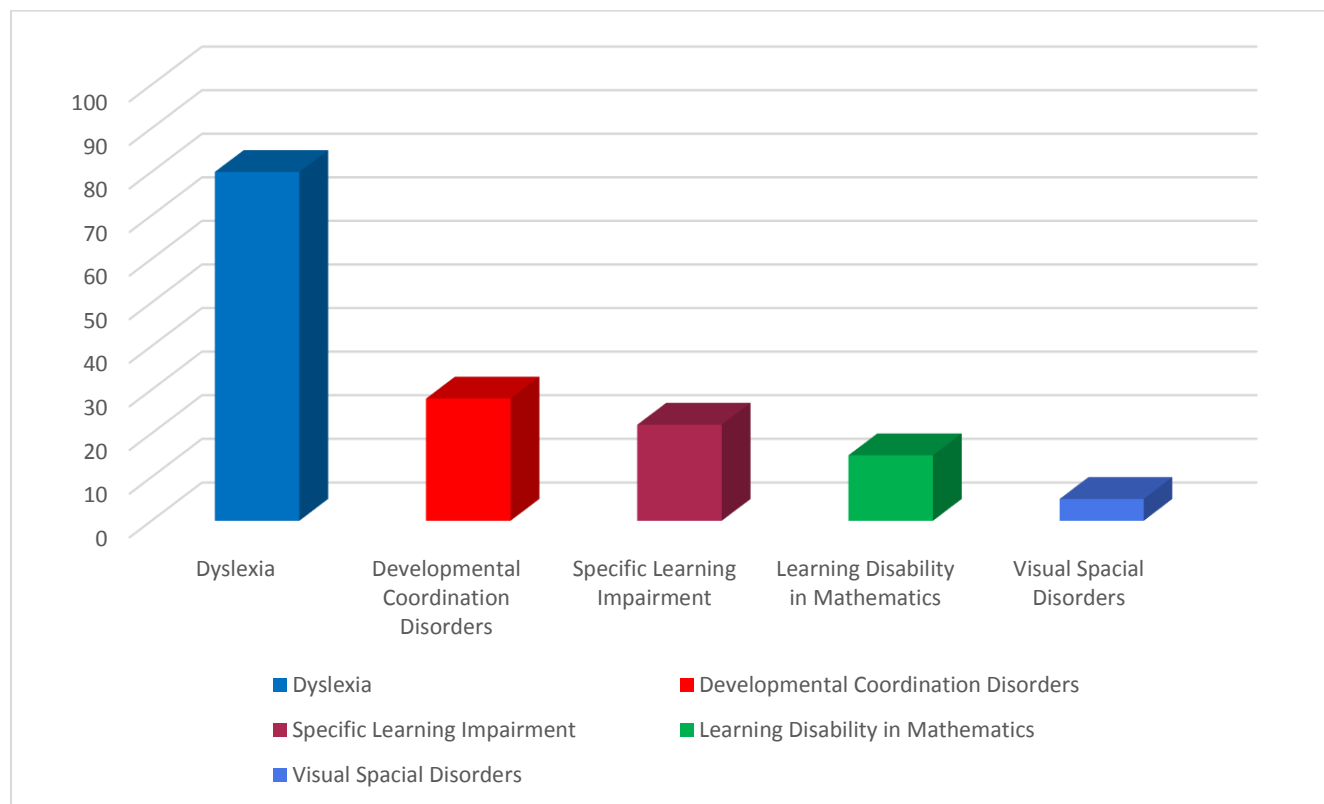
Note. Summary from "Dyslexia in higher education: Creating a fully inclusive institution," by T. Mortimore, 2012, *Journal of Research in Special Educational Needs, 13*(1), 38-47.

Characteristics of Dyslexia and the Profile of the Dyslexic Learner

Many students with poor reading ability are said to be dyslexic, but this is not always the case (Baglieri & Knopf, 2004; Ball, 2015; Shaywitz & Shaywitz, 2016; Waddington et al., 1996). Individuals who are categorized as dyslexic have complications with recognizing correct word placement, spelling, phonic accuracies, decoding, and reading compression (Peterson & Pennington, 2012). Figure 5 outlines the unique set of characteristics that hinder academic skills for individuals with dyslexia.

Figure 5

Dyslexia Difficulties Mindmap
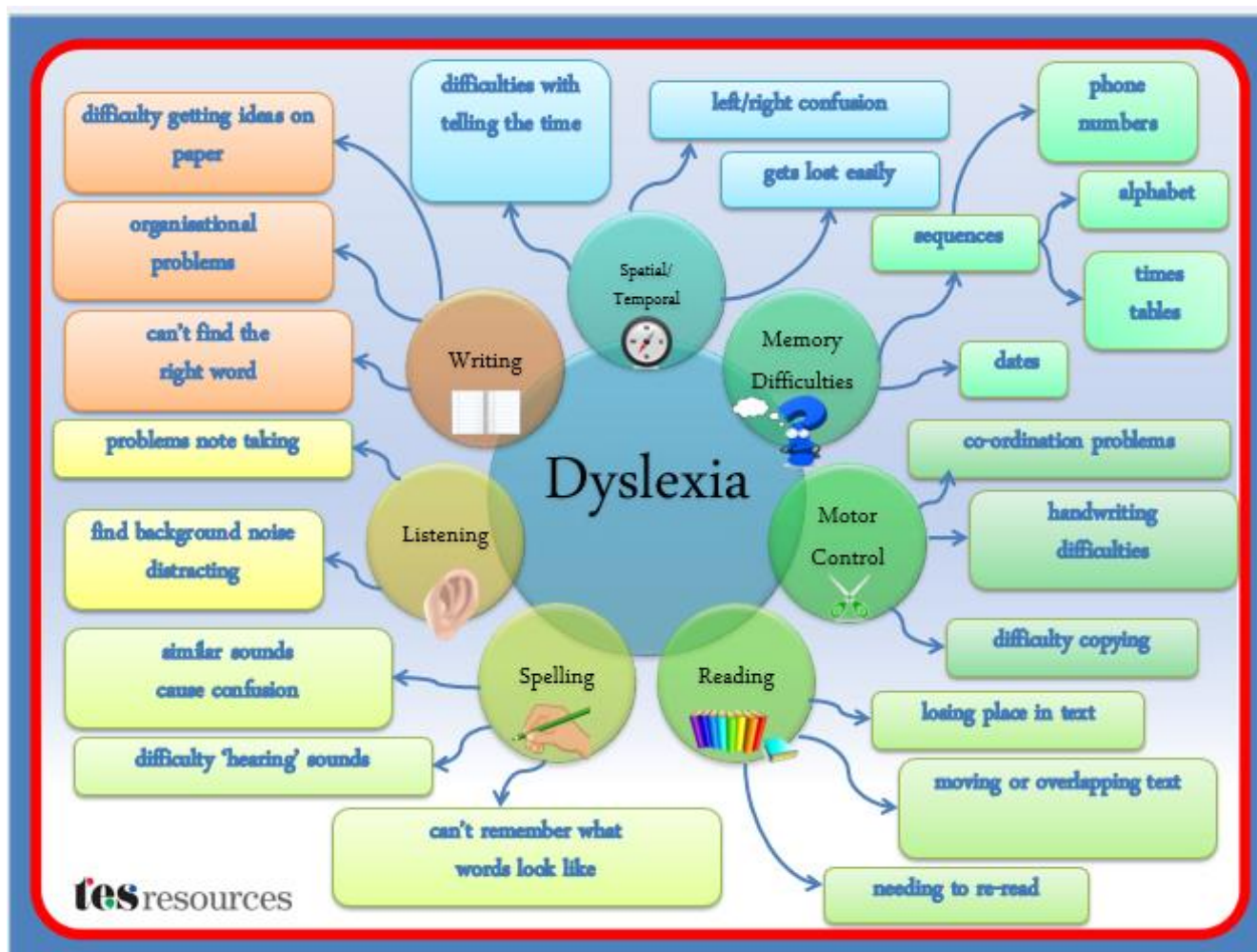
Figure 5. Tes - Education Jobs, Teaching Resources, Magazine & Forums. (2013, April 11). Retrieved February 25, 2018, from (http://www.tes.com/).Reprinted with permission (Appendix L).

With increased technology, researchers now can look at the brain of dyslexics, conduct much needed research, and offer suggestions on what to do based on the studies' outcomes (Ball, 2015; 2014; High et al., 2007; Reid, 2017). Figure 5 illustrates the way in which the brain processes language and decoding skills. Included in these listed difficulties are skills such as handwriting, concentration, reading fluency where students with dyslexia' mastery might fall

below expected levels. Dyslexia is not just a disorder of transposed letters and numbers, but can involve a variety of academic skills that might hinder a child from obtaining knowledge and skills.

The difficulties that persist within the dyslexic student appear in their phonic abilities which directly impact the ability to spell, comprehend, and advance in reading skills (Siegel, 2006; Snowling, 2012; Torgensen et al., 2009). Many dyslexics suffer from spelling problems which manifest as academic problems on spelling tests and written assignments (Fletcher, 2009; Snowling, 2012). Children with dyslexia will often display two noticeable difficulties. Initially, a diagnosed dyslexic child will have trouble with sight words and early literacy skills. Secondly, students with dyslexia often show decoding difficulties while reading (Fletcher, 2009; High et al., 2007; Siegel, 2006; Torgensen et al., 2009). These characteristics of poor spelling, below average decoding of words, and comprehension difficulties often result in children with dyslexia falling behind in school at an early age (Fletcher, 2009; High et al., 2007; Kelly & Phillips, 2016; Siegel, 2006; Snowling, 2012; Torgensen et al., 2009).

Researchers are conducting investigations on learning environments and the effect they have on student achievement. The neurodiversity perspective analyzes ways to create learning environments in which all students flourish (Armstrong, 2012; Ball, 2015). Neurodiversity refers to discrepancies in neurocognitive functioning which include learning differences such as autism, attention deficit hyperactivity disorder (ADHD), and dyslexia (Armstrong, 2010). Falling within the neurodiversity categorized brain deficiencies, dyslexics have difficulty with organization, memory, concentration, time, direction, perception, and sequencing that can lead to low self-esteem issues and depression (Catts, 2017; High et al., 2007; Reid, 2017; Turunen et al., 2017). Educators can construct methods in their teaching environment that will help all students

succeed regardless of their learning disability (Armstrong, 2012; Ball, 2015). The characteristics and learning differences highlighted by a dyslexic learner stem from abnormalities in brain function. (Nigro, Jiménez-Fernández, Simpson, & Defior, 2016; Reid, 2017). Researchers have recently explored brain imaging, with the purpose of providing foundational knowledge that would lead to an additional understanding of the characteristics of dyslexia (Catts, 2017; High et al., 2007; Reid, 2017). The study of the brain and differences that exist between normal readers and those readers that suffer from dyslexia is a new way to look at how dyslexia affects people from the inside out (High et al., 2007; Shaywitz & Shaywitz, 2016; Wylie et al., 2017). With scientific research that proves the biological differences between "normal" and dyslexic brain activity, educators can better assess, stimulate, and modify for the diverse learner.

Neurodiversity is the neurological differences (such as dyslexia) that occur within the brain (Grant, 2015; Nigro et al., 2016). The brain contains various types of matter consisting of both white and gray matter. The white matter transfers information, while the gray matter deals with processing material (Farah et al., 2014; High et al., 2007; Wylie et al., 2017). A insufficient level of white matter in the brain lessens the ability for communication to occur with other lobes of the brain, while a deficiency of gray matter might lead to the inability of an individual to process the sound structures of language (Farah et al., 2014; High et al., 2007; Wylie et al., 2017). Dyslexia is the inability for both white and gray brain matter to work sufficiently together, thus causing impaired linguistic skills.

The research conducted using brain imagery reveals that noticeable differences are present between the normal functioning brain and that of a dyslexic's brain (Farah et al., 2014; Shaywitz & Shaywitz, 2016; Wylie et al., 2017). Neuroimaging scans have unveiled that reading is performed by the left-hemispheric portion of the brain, and further research could prove vital

for subjects that struggle with the ability to read and comprehend what they have read (Hadzibeganovic et al., 2010; Vandermosten, Boets, Wouters, & Ghesquiere, 2012). Brain scans illustrate an under-activation of the left frontal gyrus, which is responsible for the linguistic abnormalities found in dyslexic's (Schurz, Sturm, Richlan, Kronbichler, Ladurner, & Wimmer, 2010; Vandermosten et al., 2012). Through neuroimaging, dyslexic individuals also demonstrated a lower cortical thickness when compared to a non-dyslexic learner, which could explain impacts on the linguistic abilities of students with dyslexia (Williams, Juranek, Cirino, & Fletcher, 2017). Neuroimaging brain studies are in the infancy stage of potentially dramatic findings that assist in identifying correlations between various characteristics of dyslexia. With advancements in the neuroimaging sector, there is great optimism surrounding the idea that scientists can move beyond the novice ideologies of dyslexia to a more complete understanding of how the disability affects individuals and possible strategies to counteract the characteristics of the disorder (Hadzibeganovic et al., 2010; Schurz et al., 2010; Vandermosten et al., 2012).

The research and studies completed on the brains of dyslexic patients have illustrated what deficiencies are present. The Dyslexia Research Institute (2015) states that deficiencies in the right side of the brain, which holds the spoken and written language, sequencing, numbers, and letters, can be offset by manipulating nonverbal or creative techniques located in the left side of the brain. Knowing where the dyslexic abnormalities and disconnects lie in the brain, vested stakeholders can better equip the education system by highlighting what the dyslexic brain can do well (Ball, 2015; Catts, 2017; 2014; High et al., 2007Reid, 2017; Shaywitz & Shaywitz, 2016).

As researchers rely more heavily on brain anatomy, brain chemistry, and brain function, educators continue looking for a bridge to combine the groundbreaking research with classroom

interventions (Catts, 2017; Dyslexia Research Institute, 2015, Shaywitz & Shaywitz, 2016). Never before have scientists and educators been equipped with more information to deal with dyslexia from the scientific and educational aspect (Armstrong, 2012; Ball, 2015; Berman et al., 2014; High et al., 2007).

Dyslexia in the Classroom Setting: The Importance of Early Detection

Creating and implementing strategies for a dyslexic child is a very important academic step. Most schools districts postpone dyslexic assessments in children until the second or third grade when children are reading at a regular reading fluency level (Catts, 2017; Reid, 2016). Current research has added scientific stability to the notion that dyslexia was more prevalent in children who have the disorder in their immediate families. (Kraft et al., 2015; Van Bergen, de Jong, Plakas, Maassen, & van der Leij, 2012). Linking genealogy to dyslexia is significant for the possibility of early diagnosis and intervention. With dyslexic brains having a smaller cortical thickness than in non-dyslexic children, interventions can start years earlier. Developmental neuroscience has demonstrated that the earlier an intervention is introduced, the greater the opportunity for improvement for a dyslexic child (Benasich, Choudhury, Peters, & Ortiz-Mantilla, 2016; Berman & Stetson, 2018; Catts, 2017; Reid; 2017). Due to modern computational technologies, dyslexics can be diagnosed at a much younger age, thus impacting their ability for early interventions (Benasich et al., 2016; Berman & Stetson, 2018; Catts, 2017; Reid, 2017). The implementation of early intervention processes can lead to dyslexic children forgoing the early struggles and academic frustrations that are currently occurring in today's schools (Berman & Stetson, 2018; Catts, 2017; Dyslexia Research Institute, 2015; Kraft et al., 2015; Hulme et al., 2015).

Early identification and the start of coping strategies is key for students with dyslexia to become academically successful (Berman & Stetson, 2018; Catts, 2017; Hulme et al., 2015). It is argued that education in the early years should not only focus on speech, sound, and phonics, but also on the development of decoding skills and reading comprehension to aid in the transition of struggling to coping dyslexic student (Hulme et al., 2015; Reid, 2017). By looking at pre-reading deficiencies and correlating the data to project future students with dyslexia, parents, teachers and psychologists can better address the needs of the child and start implementation of interventions at an earlier age.

Creating programs at an early pre-reading age that single out students with future reading disabilities enable educators to formulate an educational plan for the struggling students. This is definitely a proactive educational model that does not wait for children to have reading difficulties, but rather implements strategies earlier to avoid students lagging far behind in their reading and comprehension benchmarks. The creation of early intervention processes can lead to dyslexic children forgoing the early struggles and academic frustrations that are currently occurring in today's schools (Berman & Stetson, 2018; Catts, 2017; Dyslexia Research Institute, 2015; Kraft et al., 2015; Hulme et al., 2015).

Teaching Students With Dyslexia

The traditional classroom has changed in the last 20 years. Today, many children that exhibit characteristics of learning disabilities are placed in inclusive classrooms and it is the teacher's responsibility to educate all students equally. It is a challenge for educators to discover effective teaching and learning strategies that will assist in the development of dyslexic children (Brownlie, Feniak, & Schnellert, 2016; Exley, 2003; Milford & Harrison, 2010; Suskie, 2018). Some of the ways in which teachers and schools try to assist the dyslexic learners are to diversify

classroom lessons, educate in preferred learning styles, incorporate technology, and establish

ARD and IEP frameworks (Reid, 2016; Sutton & Shields, 2016).

Discovering the preferred learning style is crucial for the development and success of

students with dyslexia (Brownlie et al., 2016; Exley, 2003; Suskie, 2018). Teaching all students

in the same pedagogical manner does not benefit the dyslexic learner. Dyslexic individuals have

a heightened right brained learning preference, and lessons need to represent this preference in

order to maximize learning (Brownlie et al., 2016; Exley, 2003; Nicolson & Fawcett, 2010;

Suskie, 2018). Teachers need to respect and implement strategies that highlight a variety of

learning styles for all students to achieve success. When combatting a learning disability,

diversifying lessons is key to reach these students. Ways in which teachers are diversifying

classroom lessons to benefit the dyslexic learner include lessons that emphasize computer-

assisted instruction, project based learning, and tactile saturated lessons (Alt et al., 2017;

Daloiso, 2017; Stienen-Durand & George, 2014; Thompson et al., 2017).

Within the United States, a struggle exists to effectively apply linguistic education to

students with dyslexia due to their academic deficiencies (Nigro et al., 2016; Peer, Reid, &

Blunkett, 2003; Suskie, 2018). Computer technology can fill the educational void left by

traditional instructed classrooms that often fail students with dyslexia (Alt et al., 2017;

Thompson et al., 2017). Technology supplemented curriculum assists the dyslexic learner by

providing specialized instruction in areas of need through software that focuses on repetition of

skills in an engaging format (Alt et al., 2017; Nigro et al., 2016; Torgensen et al., 2009). Studies

conducted have tracked students with dyslexia with and without computer based instruction

implementations. In many instances, students with dyslexia significantly accelerated their

overall phonic and linguistic abilities through the addition of computer based learning (Alt et al.,

2017; Nigro et al., 2016; Torgensen et al., 2009). Computer-assisted instruction interventions that implement individualized learning with a key emphasis on pre-reading, vocabulary, reading comprehension, and word recognition have had a profound effect on the dyslexic student population (Alt et al., 2017; Reid, 2017; Thompson et al., 2017).

Differentiating instruction is a key component in the ability to achieve for dyslexic individuals (Berninger & Wolf, 2009; Jones, Yssel, & Grant, 2012). Teacher's ability to provide many pathways toward educational goals is the highlight of differentiated instruction (Berninger & Wolf, 2009; Subban, 2006). While many students prefer a certain mode of education such as computer assisted lessons, others may provide a more creative aspect of learning.

One form of differentiating instruction that highlights creativity and has shown to have positive outcomes for dyslexic achievement is project-based instruction. Project-based instruction draws upon the academic strengths that the dyslexic individual possesses and allows for gains and understanding in academic performance and attitudes toward academic self-efficacy within their learning environment (Berninger & Wolf, 2009; Jones et al., 2012). By engaging in project-based instruction, students with dyslexia are able to use a multi-sensory approach toward their education that provides avenues of enrichment.

Tactile learning is another leaning style that can benefit the dyslexic learner's academic skills and knowledge. Programs such as Moonshot, have integrated tactile learning into the curriculum to overcome the academic barriers set by dyslexia. The Moonshot program uses students with dyslexia' fingers and their numerous nerve endings to overcome barriers that exist in traditional education methods (Berninger, & Wolf, 2016). Some tactile lessons that the Moonshot program uses are tracing letters with your fingers, writing in shaving cream, and air writing. Scholars have stated that by involving multisensory learning, students with dyslexia are

able to bridge the gap in their phonological learning (Drigas & Gkeka, 2017; MacCullagh et al., 2017; Mills, 2018; Mohamad & Abdullah, 2017). Moonshot is not the only tactile learning strategy that is being used to combat the effects of dyslexia. The tactile letters to mobile application curriculum and the VAKT (visual, auditory, kinesthetic, and tactile) program looks at early intervention with mobile blocks and textured letters to reinforce alphabetical and word recognition abilities (Drigas & Gkeka, 2017; Mohamad & Abdullah, 2017). Through tactile learning, students with dyslexia are able to stimulate other senses to establish a coping strategy that allows for academic success and growth.

Many of the students who receive inclusive support are given accommodations due to the Individuals with Disability Act (IDEA), which assists students who have either a learning or behavioral disability (Abreu, Hillier, Frye, & Goldstein, 2017; Giangreco, Doyle, & Suter, 2012; Solberg, Howard, Gresham, & Carter, 2012). Due to high functioning abilities, a large number of students do not qualify for alternate assessment options; however, through a student's Individualized Education Plan (IEP) and Admission, Review, and Dismissal (ARD) committee recommendations can determine that these students need full-time, individualized support (Giangreco et al., 2012; Siegel, 2017). It is the role of the teacher to take on the challenges of accommodating a curriculum while adhering to the needs of all of the students in their classrooms (Danielson, 2013; Dieterich, Chan, & Price, 2017; Witmer, Schmitt, Clinton, & Mathes, 2017).

Instructional Strategies/Philosophies for the Dyslexic Learner

Research indicates that there are several teaching strategies that can be used to help with students with dyslexia' cognitions and reading abilities (Harwell & Jackson, 2008; Reid, 2016). The strategies include phonics techniques, listening comprehension techniques, word

assimilation strategies, peer grouping, and cooperative learning communities (Bell & McLean, 2016; Peer & Reid, 2001; Reid, 2016). By changing to a diverse perspective, educators can help students with dyslexia reach their full academic potential (Armstrong, 2012; Baglieri & Knopf, 2004; Harwell & Jackson, 2008). The instructional strategies such as inclusive support, differentiated instruction, Language Experience Approach (LEA), Reading for Life (R4L), computer-based instruction, Read Write Type (RWT), and the Lindamood Phoneme Sequencing Program (LIPS) programs aid in academic success for the dyslexic student (Armstrong, 2012; Baglieri & Knopf, 2004; Harwell & Jackson, 2008).

Universal Learning Designs (ULD) are another example of educational techniques that aid in the development of dyslexic learners. A main piece of UDLs are flexible learning environments and the ability to accommodate for individualized learning differences. Flexible learning environments allow students to learn in their preferred learning style (Hazmi & Ahmad, 2018; Kang et al., 2018; Ok, Rao, Bryant, & Mcdougall, 2016). Universal Learning Designs incorporate diverse learning strategies to heighten learner's ability to achieve within the classroom structure. All students can benefit from UDL techniques; however, students with dyslexia rely on such methods in order to succeed academically.

Inclusive support. It is increasingly challenging for teachers to differentiate each lesson based on the learning strategies that best fit a variety of students' needs, including dyslexics whose difficulties are often wide ranging (Bell & McLean, 2016; Exley, 2003; Harwell & Jackson, 2008; Reid, 2016). Studies have been conducted that look at removing students with disabilities from their classes in order to strengthen their academic skills (Exley, 2003; Harwell & Jackson, 2008; Milford & Harrison, 2010). During these pull out sessions, students were retaught material through visual, auditory, and kinesthetic lesson models. By adapting the

dyslexic student's educational environment, teachers can better assess and deliver information to monitor and strengthen academic skills. Students with dyslexia who identify their preferred learning style obtain a better sense of their disability as well as endure an enhanced academic performance (Exley, 2003; Harwell & Jackson, 2008).

According to IDEA (2004), schools are not required to include special educated students into the traditional classrooms. However, IDEA does state, and the law stipulates, that children with disabilities are to be educated in their "least restrictive environments." For many students with disabilities the "least restrictive environments" lie within the traditional classroom, often with monitored assistance.

Using a blended approach that has children with disabilities learn in the traditional classroom, but seeks additional assistance through monitored pull outs has a track record of performance growth for students with disabilities that need further instruction to gain subsequent gains across their academic courses (Exley, 2003; Harwell & Jackson, 2008). Research states that academic and personal goals of students with dyslexia may be reached, highlighting the need for appropriate support implementations and early recognition of the disorder (Earey, 2013; Exley, 2003; Harwell & Jackson, 2008; Torgensen et al., 2009). Providing students with instruction in their least restrictive environment is appropriate, but sometimes does not render the assistance a student struggling with disabilities needs. The blended approach of education that initiates content-based pull outs after traditional instruction is often needed and the best fit (Bell & McLean, 2016; Earey, 2013; Exley, 2003; Harwell & Jackson, 2008).

Differentiation of instruction. Dyslexic individuals have difficulty processing and comprehending written words. As a coping mechanism, students with dyslexia often have a heightened auditory ability to comprehend written work as a means to compensate for their

lacking visual comprehension (Elkabariti et al., 2017; Hogan et al., 2014). This coping skill can be progressed through auditory building skills and techniques that allow dyslexic individuals to compensate for their lacking visual processing abilities. Assessments intended to measure listening comprehension have a contrasting variance to which vocabulary, inferencing, background knowledge tests, and reading comprehension are measured (Hogan et al., 2014). To aid in the development of auditory comprehension skills, teachers can use lectures, recordings, and verbal cues to enhance the abilities and create a coping mechanism that allows students with dyslexia to receive and comprehend material (Graham, 2016; Kendeou, Broek, Helder, & Karlsson, 2014).

There are often 30 students or more to a classroom, which leads to teachers being faced with the enormous job of finding a variety of preferred learning methods so they may impact all of their students to the fullest of their abilities (Moss, 2017). Two words to keep in mind when teaching students with dyslexia are "accommodation" and "modification" (Arrow et al., 2015; Deacon, Cook, & Parrila, 2012; Reid, 2016; Waddington et al., 1996). An educator's task of accommodating and modifying the curriculum and environment for students with dyslexia is a daunting one (Bellert, & Graham, 2016; Mercer, 2002). Teachers have the difficult job of instituting blended learning, project based learning, and the integration of computer based intervention within the classroom. Students with dyslexia have trouble in many areas and need complex things to be broken down into the simplest form. Educators need to be mindful of students with dyslexia' essential educational accommodations during instruction time as well as present material visually; having the directions explained orally as well as visually posted increases the success rate of the student (French et al., 2013; Waddington et al., 1996). Educators also need to adjust their assignments as using step-by-step assignments is very helpful

to students with dyslexia (French et al., 2013; Waddington et al., 1996). Additionally, multi-sensory instruction is ideal for connecting to not only students with dyslexia but every student's learning style (French et al., 2013; Waddington et al., 1996).

The blending of various learning styles is referred to as differentiated instruction (Arrow et al., 2015; Baglieri & Knopf, 2004; Deacon et al., 2012; Exley, 2003; Subban, 2006; Wolgemuth, Cobb, & Alwell, 2008). Differentiated instruction assists students of all academic makeups; however, students with disabilities often need the different learning pathways to succeed (Berninger, & Wolf, 2009; Jones et al., 2012). Teachers' abilities to weave students preferred learning styles within the makeup of their lessons can have remarkable effects on students' cognition and skills. Discovering a more effective instructional and learning strategy for students with dyslexia with varying cognitive deficiencies presents a challenge to educators (Arrow et al., 2015; Deacon et al., 2012; Exley, 2003). By diversifying the instructional content of material, students with dyslexia do not feel pressure to try to conform to educational methods that they have failed with previously. Differentiated instruction can be designed for the educational benefits of all students, especially students with disabilities (Baglieri & Knopf, 2004; Deacon et al., 2012; Harrar et al., 2014).

Other educational methods include the use of interpersonal and cooperative relationships that work toward ways of interacting with and accessing the curriculum for students in need (Baglieri & Knopf, 2004). There are various methods in which a teacher can cater to individual learning styles. For example, student responses can be done in various methods such as illustration, conversation, performance, or writing (Baglieri & Knopf, 2004; Harrar et al., 2014). Minor adjustments in a classroom can change the perspective of students in such a way that enables them to embrace the differentiation (Baglieri & Knopf, 2004; Harrar et al., 2014).

Course curriculums can be transformed in many ways in an attempt to reach all students; changing the process in which educators instruct the class is a viable process toward academic achievement across many educational barriers.

      Language experience approach. Linguistic skills are an important educational component, especially in the technically confusing English language. Having linguistic deficiencies affects reading, writing, and speaking skills that are all necessary for academic success (Farah et al., 2014; High et al., 2007; Wylie et al., 2017). The language experience approach (LEA) offers a systematic implementation of language mastery technique geared for the disabled learner. Research testing the validity of a neuropsychological intervention on students with dyslexia has been conducted (Fletcher, 2009; Goldstein & Obrzut, 2001). Historically, a diagnosis of dyslexia would indicate that the subject had low reading levels. The techniques for treating dyslexia included the inclusion of language experience approach, whole word method approach, and linguistic approach (Fletcher, 2009; Goldstein & Obrzut, 2001). Each approach modified and assimilated one characteristic for the dyslexic learner, either the ability to read, write, or speak. The addition of the LEA method has students read and work on pertinent vocabulary all while conducting themselves as the narrator of the story (Goldstein & Obrzut, 2001; Newport, 2016). By using this method, students build vocabulary and word bank sight words to help with word recognition. When educators use the whole word method of instruction, meaningful words can be incorporated to a reader's lexicon for the purpose of increased recognition. This learning method creates a stored vocabulary list in the brain for future usage. In the linguistic approach, educators use a set of rules that regulate the correspondence between sounds and letters. (Newport, 2016; Nigro et al., 2016)

      Reading for life. Reading is a lifelong skill that results in ridicule and labeling when not

mastered. Reading is one of the difficulties that students with dyslexia encounter (Peterson &

Pennington, 2012; Reid, 2016; Siegel, 2006; Snowling, 2012). Today, many children's reading

skills have benefited from early introductions into programs that highlight reading education

(Skibbe, Gerde, Wright, & Samples-Steele, 2015; Thompson et al., 2017). The Reading for Life

(R4L) program has been created to compose powerful new solutions for reinforcing reading

interventions by conjoining pioneering advancements made in self-concept interventions along

with reading skill preparations (Hornery et al., 2014; Torgensen et al., 2009). Through the

development and implementation of the R4L program, teachers have a proven approach to deal

with early-onset reading deficiencies and students with dyslexia in the classroom. The R4L

initiative provides a positive atmosphere in which children with reading deficiencies can build

their confidence and skill levels (Hornery et al., 2014; Torgensen et al., 2009).

The R4L program involves many individuals in order to have success. The key

stakeholders for the R4L program are the students, volunteers (reading buddies), trainers,

teachers, and parents (Hornery et al., 2014; Nag, Snowling, & Asfaha, 2016). Through the

support of staff and parents, the students are imbedded in an opportunity to further their reading

and comprehension abilities through the R4L model. The R4L model has six sections:

highlights (building relationships), warm up (sight words), stretching, (phonological awareness),

main event (reading), cool down (transfer and generalization of knowledge), and celebrating

effort/abilities (reading self-concept) (Hornery et al., 2014; Nag et al., 2016). Through this six

step approach, students create a bond with their reading buddy, develop pertinent reading skills,

and establish a learning environment that is conducive toward students with reading difficulties

that celebrates their accomplishments no matter how small. Programs such as R4L need to be

implemented on a larger scale and teachers need to receive the professional development to take

on the reading deficiency epidemic that is happening in schools. Establishing, improving, and sustaining reading accomplishment and reading self-concept are dynamic elements in supporting children to take complete advantage of their potential academic skills (Hornery et al., 2014; Nag et al., 2016).

Read Write and Type. As technology advances, educators can look at using computer based instructional approaches as a potential intervention for students with dyslexia. The Read Write and Type (RWT) program looks at ways to advance students with dyslexia phoneme sequencing (Cheung & Slavin, 2013; Torgensen et al., 2009). Through the use of computer-based interventions, research saw growth in students with dyslexia' abilities. This growth was noticed through their phonological processing abilities, word accuracy, phonemic decoding accuracy, spelling, reading, and comprehension (Alt et al., 2017; Cheung & Slavin, 2013; Thompson et al., 2017; Torgensen et al., 2009).

The RWT method of instruction helps children obtain the inaugural alphabetic reading abilities through engagement in written and reading activities that include computer software using colorful graphics, digitized communications, and activity-based practice simulations (Cheung & Slavin, 2013; Torgensen et al., 2009). By keeping learning new, interactive, and fun, the RWT method of instruction grabs learners struggling with reading and keeps them engaged in a safe, non-threatening environment. The RWT program has children spend significant time on processing skills and the use of phonics in language (Cheung & Slavin, 2013; Torgensen et al., 2009).

Lindamood Phoneme Sequencing Program. Much like many early reading techniques, the use of phonics helps early readers grow in reading competencies. Phoneme sequencing is the ability to notice differences in and retain the sounds of language in basic single syllable words.

Students with low phoneme sequencing often have trouble in auditory memory, skills necessary to understand and process language, and written language skills (Cheung & Slavin, 2013; Segawa, Tourville, Beal, & Guenther, 2015). A reading program that highlights phonics instruction heightens the learning curve for children's abilities to read, and ultimately their reading success (Coltheart, 2015; Segawa et al., 2015; Skibbe et al., 2015). The Lindamood Phoneme Sequencing (LIPS) program offers explicit education techniques in phonemic responsiveness by guiding students to discover and label articulatory gestures associated with each phoneme (Chacko, Uderman, Feirsen, Bedard, & Marks, 2013; Cheung & Slavin, 2013; Torgensen et al., 2009). The LIPS program uses mouth motor skills, spelling and auditory enhancement techniques, sequencing, and sight words. Once students within the LIPS program are able to produce, label, and organize the sounds, students move onto identifying and ordering the sounds within words. During this process students use skills such as sequencing, reading, and spelling activities to demonstrate their knowledge of phenome sequencing. Many children start using aspects of the LIPS program as early as preschool. With early intervention, a crucial aspect of dyslexic facilitation, students who remain in the program project a higher phoneme sequencing ability than those students who do not see the LIPS program through. The LIPS program is an important instructional strategy for dyslexic learners to enhance their phenome sequencing ability with.

Universal Design for Learning. Universal Design for Learning (UDL) is a teaching philosophy that's purpose is to create an instructional environment in which all students can flourish, not just students with disabilities (Pavlidis & Markantonatou, 2018; Pilgrim & Ward, 2017). Teaching within a UDL system allows students to gravitate toward their preferred learning styles and success patterns. Goals of UDLs are to assess students' needs while also

evaluating any barriers of success that might occur (Pavlidis & Markantonatou, 2018; Pilgrim & Ward, 2017; Reimer, 2017). Within these goal-setting processes, students abilities and disabilities can clearly be evaluated and accommodated for within the learning cycle. Major components of the UDL philosophy are flexible learning environments and technology. UDLs provide all students, but especially those with learning disabilities, the opportunity to participate and function within the educational setting by reducing barriers to instruction. (Pavlidis & Markantonatou, 2018; Pilgrim & Ward, 2017; Reimer, 2017).

Technology. Within a UDL design, technology offers students the accessibility of text-to-speech programs, audio books, and auto-read programs that aid all students' learning, but that might be necessary for students with learning disabilities. Being a part of the UDL philosophy, technology aids students progression and can assist with modeling through virtual applications that can be downloaded by students with dyslexia. Technology applications in reading, composing text, notetaking, organizational skills, and metacognition/study skills all can assist the dyslexic learner and provide the ability to even the educational playing field. Reading can be especially frustrating for a dyslexic student. The UDL program has applications such as Goodreader and Speak it! that assist the dyslexic student by adding read-aloud functions (Armstrong, 2012; Katz & Sokal, 2016; Reid et al., 2013). The features of reading assistance apps can further a dyslexic's development through modeling and the constant reinforcement of key vocabulary and sight words that appear and become instilled in the child. UDL applications that assist with composing text, such as AppWriter, use text-to-speech, content-based words and also use Dyslexie font, which has shown to decrease the reading errors in dyslexic individuals (Reid et al., 2013; Rello, 2015; Wery & Diliberto, 2016). By using the concepts and strategies introduced through both traditional and technological modeling, the dyslexic learner can hurdle

academic barriers (Graf, Lin, & Kinshuk, 2008; Hornstra, Denessen, Bakker, van den Bergh, & Voeten, 2010).

      Social learning. Social learning can also play an integral part in the development and ability to overcome the academic barriers for individuals with dyslexia. As stated in social learning theory, social learning is the intellectual development that occurs in a social context and can develop through observation or direct instruction (Bandura, 2011; Crain, 2015; Schwarzer, 2014; Thoits, 2011). Looking at the social aspect of learning and what it takes to overcome a disability, this theory investigates modeling, support structures, self-efficacy, and self-knowledge as social learning responses to achieve above normal abilities in dyslexic subjects.

      Modeling is connected to social learning through the observation and imitation pieces of Bandura's social learning theory. Modeling can be a very practical and essential tool in providing instruction and steps toward overcoming challenges of a learning disability such as dyslexia. In establishing a systematic approach to overcome the academic barriers formed by the characteristics of dyslexia, it is important to implement strategies that provide beneficial feedback of students' written and reading performance, vary the difficulty of textual information, establish a challenging but not unrealistic performance goal, and engage students in peer-reading, educational opportunities (Daly, Bellert, & Graham, 2016; Stevens et al., 2016). Modeling can take many forms and increases the function of students with disabilities across many levels. Integrated peer success models positively engage students toward bridging the achievement gaps through active learning scenarios focusing on reading, comprehension, and post reading activities that emphasize textual recollection and memory skills (Daly et al., 2015; Stevens et al., 2016; Yeari & van den Broek, 2016). The ability to first see others' successes and how they

process information effectively and conceptually accomplish a task is crucial in a dyslexic's attempts to overcome the functional disabilities that their dyslexic traits embody.

Having a family member or school employee that facilitates growth is very helpful for all students. For students with a disability, having a support structure can make the difference between falling through the cracks and success. Peer support is also a key feature for students with dyslexia to attain adequate academic skills to combat their learning disability (Alden & Pollock, 2011; Reid et al., 2013; Kiuru et al., 2013). The act of watching other students complete tasks, master skills, and produce work is very beneficial for the dyslexic learner who often benefits from a framework or blueprint. The goal of the studio environment theory is to uniquely bring about positive change to a dyslexic's education through peer support. In a class setting where studio environment is being used, distinct teaching and learning takes place through group critiques and tutor and peer seminars, along with one-on-one tutorials and peer-to-peer exchanges (Alden & Pollock, 2011; Altay, Ballice, Bengisu, Alkan-Korkmaz, & Paykoç, 2016). This unique style takes many attributes from a differentiated instructional model, but implements key student interactions and peer counseling seminars to engage students in the learning process (Alden & Pollock, 2011; Altay et al., 2016).

Teacher and family support play a fundamental role in the development of coping strategies in the lives of dyslexic individuals. Educators find themselves at the forefront in providing assistance and support for students with disabilities (Fishman & Nickerson, 2015; Givon & Court, 2010; Haines, Gross, Blue-Banning, Francis, & Turnbull, 2015). A teacher, counselor, and administrator that spends a little more time getting to know their students and helping struggling students cope with a disorder can make all the difference in the world. Just as a great support staff can influence a disabled student through the coping strategy progression, a

lack of support and negative relationship with a teacher can stall or even reverse progress made (Fishman & Nickerson, 2015; Givon & Court, 2010; Haines et al., 2015).

Families play an important role in the lives of children with disabilities. The developmental processes of initiating and learning coping strategies are significant in a child with disabilities and are often originated and developed through family structures (Shaywitz & Shaywitz, 2008; Reid, 2017). Teachers of students with learning disabilities rely on parents to facilitate the learning process through at home interventions (Fielding-Barnsley & Purdie, 2003; Niklas & Schneider, 2017). Home based interventions for dyslexic learners include phonic games, sight word memorization, flash cards, and nightly parent and child reading (Fielding-Barnsley & Purdie, 2003; Niklas & Schneider, 2017). With the addition of at home support, teachers can address further more specialized needs for the dyslexic learner.

Having a stable structure group that a dyslexic student can call upon strengthens the chances that barriers to education can be circumvented. Dyslexic studnets ability to maneuver around the academic barriers set by their learning disability is made possible through self-efficacy (Brown, Peterson, & Yao, 2016; Schunk & DiBenedetto, 2016). Self-efficacy is an individual's confidence that they possess the ability to succeed and master certain tasks or situations (Bandura, 2012). The idea of self-efficacy can play an enormous role in a dyslexic child's ability to overcome academic barriers hindering the child's scholastic performance. The investigation of what allows high achieving students with dyslexia to transcend educational expectations lends itself to self-efficacy and Bandura's social learning theory. In addition to teacher and parent support, a student's own motivation is imperative for academic success. The theories imbedded within self-efficacy have been gaining in popularity among researchers

studying students' academic motivation, self-regulation, and goal achievement (Schunk, & DiBenedetto, 2016).

Researchers have explored the link between self-efficacy and academic success. Many studies have been conducted that have concluded that the belief that one can accomplish a task directly affects the student's self-regulation, academic self-efficacy, and grade point average (Brown, Peterson, & Yao, 2016; Schunk & Di Benedetto, 2016; Virtanen, Nevgi, & Niemi, 2015;). Research within the theory of self-efficacy has shown that there is a strong positive relationship between previous and future academic performance and the academic beliefs that students hold of themselves (Drago, Rheinheimer, & Detweiler, 2018; Hwang, Choi, Lee, Culver, & Hutchison, 2016). Students who succeed apply a positive cycle of achievement due to their self-efficacy constantly being reinforced, and the opposite can be said for those students with low self-efficacy. Strong self-efficacy philosophies heighten human accomplishment and individual well-being in many ways (Brown et al., 2016; Drago et al., 2018; Hwang et al., 2016; Schunk & Di Benedetto, 2016). Students with dyslexia with a strong self-efficacy belief structure have greater intrinsic attentiveness in activities, set stimulating goals and maintain a strong assurance to them, intensify their determinations when faced with failure, mend their confidence after academic disappointments or setbacks, and prioritize gaining the necessary tools and knowledge to overcome their previous setbacks in hopes of ultimately acquiring the desired skills (Brown et al., 2016; Drago et al., 2018; Schunk & Di Benedetto, 2016).

The adoption of strong self-efficacy traits can help initiate a sense of determination when facing problematic tasks and activities with the idea that one can overcome such barriers (Barnes & Brown, 2016; Ben-Naim, Laslo-Roth, Einav, Biran, & Margalit, 2017). Conversely, individuals with low self-efficacy beliefs tend to view tasks as more difficult than they really are,

a belief that nurtures anxiety, tension, depression, and a constricted vision on how to best to

resolve a problem (Halper & Vancouver, 2016; Schunk, & DiBenedetto, 2016). Self-efficacy

philosophies are strong factors and predictors of the level of achievement that individuals

ultimately attain. It is through the ideologies of Bandura (1986, 2012, 2016) that the principles of

personal efficacy constitute the significant factor of human agency and the ability for students

with disabilities but a high self-efficacy to overcome academic barriers.

Self-knowledge is very important, especially for those struggling against physical or

mental limitations. Self-knowledge, or beliefs about one's own psychological attributes and

distinctions, concentrates on aspects of knowing the limitations of one's self and how to express

or accommodate these limitations (Pizzolato & Olson, 2016; Showers, Ditzfeld, & Zeigler-Hill,

2015). High-achieving students with dyslexia have exceeded educational barriers due to their

knowledge of deficiencies caused by their learning disability (Burden & Burdett, 2005;

MacCullagh et al., 2017; Malpas, 2017). Dyslexia doesn't make a student weak, but it pushes

them to strive to overcome the weakness. In observing students with dyslexia' self-efficacy,

their lack of educational competence did not correspond to their levels of self-worth in

comparison to their normally-achieving peers (Drago et al., 2018; Hwang et al., 2016; Klassen &

Lynch, 2007). Having a self-knowledge of their skills and deficiencies allows students with

dyslexia to maintain exceptionalities. These exceptional students are able to transcend academic

barriers due to their innate implementations of coping strategies for those aspects of learning that

are lacking (Burden & Burdett, 2005; MacCullagh et al., 2017; Malpas, 2017). The lack of

knowledge of one's own cognitive system, is a possible explanatory construct for why many

disabled youth experience difficulties in certain academic settings (Carter et al., 2013; Hagen,

Barclay, & Newman, 1982; Lau, Ortega, & Sharkey, 2015). Dyslexia does not mean that a child

will be academically unsuccessful; it does, however, represent an obstacle that a child needs to overcome to sustain academic success.

Conclusion

The literature supports the use of instructional strategies/philosophies, UDLs, and shows that social learning promotes learning in the dyslexic student (Alt et al., 2017; Armstrong, 2012; Baglieri & Knopf, 2004; Bell & McLean, 2016; Ben-Naim et al., 2017; Berninger & Wolf, 2009; Brown et al., 2016; Carter et al., 2013; Catts, 2017; Crain, 2015; Earey, 2013; Exley, 2003; Farah et al., 2014; Fletcher, 2009; Fowler, 2010; French et al., 2013; Harrar et al., 2014; Harwell & Jackson, 2008; Hogan et al., 2014; Hornery et al., 2014; Moss, 2017; Pavlidis & Markantonatou, 2018; Peer & Reid, 2001; Peterson & Pennington, 2012; Thomson & Scott, 2013; Torgensen et al., 2009; Waddington et al., 1996; Wylie et al., 2017). Since everyone's brain is different and each dyslexic student possesses a variance of skill sets, no single support system or philosophy can take credit for dyslexics becoming high achieving (Moats, 2010; Reid, 2016; Shaywitz & Shaywitz, 2016). This investigation attempts to connect the patterns of dyslexics' academic success with the use of instructional strategies, UDLs, and social learning. By doing this, the research intends to create a blueprint that all dyslexics can benefit from in their quest to become academically successful.

Although the definition of a high-achieving dyslexic is not common place, this given population transcends barriers for academic achievement, far surpassing their perceived educational limits, and warrants investigation. The literature review looked at the (1) history and statistical information of dyslexia; (2) characteristics of dyslexia and the profile of the dyslexic learner; (3) dyslexia in the classroom setting and the importance of early detection; (4) teaching students with dyslexia and the importance of social learning; and (5) instructional strategies for

the dyslexic learner in an effort to bring current research to the apex of this phenomenological

study.

Chapter III

Design and Methodology

Introduction

This chapter discusses the research design and methodology used to investigate the effects of social learning theory on dyslexic individuals. The purpose of this study was to investigate the lived experiences of eight successful, high-achieving students with dyslexia regarding their persistence, ability to transcend academic barriers they have faced, and their journey to post-secondary education. The focus of this study is imbedded in Bandura's social learning theory that emphasizes the importance of modeling, developing coping strategies, and self-efficacy development toward overcoming academic barriers (Bandura, 1977).

The emphasis of this investigation was to gain insight on high achieving dyslexics' academic success. A phenomenological approach was use to capture the lived experiences of participants of this study. This chapter provides a roadmap that illustrates the importance of the study including the following areas: validation of the methodology used; explanation of the research design; details regarding data collection, including participant and setting selection and the interview process; limitations to the study; and a discussion on the validity that this research holds (Creswell, 2013).

Research Questions

The purpose of the research questions was to drive the investigation toward an understanding of first-hand accounts of academic success achieved by students struggling with dyslexia. It is through these in-depth questions that the journey of dyslexic participants and what assisted them in their quest toward academic success is uncovered.

The following questions were used to focus the investigation of this study:

1. To what do high achieving students with dyslexia attribute their academic success?

2. To what extent do students with dyslexia feel the support from family, teachers, and peers contributed to their academic success?

3. How does the understanding of their learning disability impact the academic success of students with dyslexia?

4. How do students with dyslexia overcome the academic challenges encountered as a result of their learning disability?

Research Design

A study's research design is the action plan that "guides the investigator in the process of collecting, analyzing, and interpreting observations. It is a logical model of proof allowing the researcher to draw inferences concerning causal relations among the variables under investigation" (Yin, 2014, p. 26). The research design can be looked at in terms of the blueprint used to ensure that the study clearly addresses the research questions (Creswell, 2013; Moustakas, 1994; Patton, 2002; Yin, 2009). The research design most appropriate for this study was a qualitative approach that drew upon phenomenological characteristics to reach conclusions (Creswell, 2011; Eddles-Hirsch, 2015; Pathak, Jena, & Kalra, 2013; van Manen, 1990; Vogt, 2008). Qualitative investigations may differ in their research strategies, but they all aim to obtain an in-depth understanding of a certain phenomenon (Creswell, 2011; Eddles-Hirsch, 2015; Pathak et al., 2013; van Manen, 1990).

Every type of research design has a purpose that drives the examination. Qualitative research is driven by generating plentiful, comprehensive data that provides an understanding through multiple contexts of lived experiences by which the participant's phenomenon is told in

its unfiltered entirety (Anderson, 2010; Creswell, 2013; Maxwell, 2006; van Manen, 1990).

According to Morse, Swanson, and Kuzel (2001):

> Qualitative research is a situated activity that locates the observer in the world. It
> consists of a set of interpretive, material practices that makes the world visible. These
> practices ... turn the world into a series of representations including field notes,
> interviews, conversations, photographs, recordings and memos to under pinned by
> particular philosophical assumptions and that researchers should maintain consistency
> between the philosophical starting point and the methods they adopt. (p. 2-3)

In this manner, qualitative research can be used to validate a phenomenon of individuals or

groups (Anderson, 2010; Merriam & Tisdell, 2015).

Important interviews obtained from high-achieving students with dyslexia adds validity

to the phenomenological qualitative approach. Such type of research is an interactive inquiry

model designed to explore problems that exist with social and/or human issues (Creswell, 2013;

Maxwell, 2006; Redpath et al., 2013). A phenomenological study is a type of qualitative

research which aims at grasping a deeper knowledge over an occurrence by reflecting over the

participants lived experiences (Moustakas, 1994; van Manen, 2014).

Moustakas (1994) illustrates seven qualities to guide a well-planned investigation. These

seven phenomenological qualities of research are:

1. Recognize the value of qualitative designs and methodologies through the studying of human experiences

2. Focus on the wholeness of experiences rather than measurements and explanations.

3. Search for meanings and essences of experience rather than measurements and explanations.

4. Obtain descriptions of experiences through first-person accounts in informal and formal conversations and interviews.

5. Regard the data of experience as imperative in understanding human behavior and as evidence for scientific investigations.

6. Formulate questions and problems that reflect interest, involvement, and personal commitment of the researcher.

7. View experiences and behavior as an integrated and inseparable relationship of subject and object and parts and whole. (Moustakas, 1994, p. 21)

These qualities were used to guide the interview process of the eight high-achieving students with dyslexia who have recently graduated from a post-secondary university or who are currently on track to graduate with three semesters or less of coursework remaining, or have recently graduated, and who have earned at least a 2.5 GPA at the university level. By using a phenomenological approach for investigation, the ability to capture a deeper understanding of the firsthand lived experiences of the interviewed population was achieved (Corbin & Strauss, 2015; Creswell, 2007; Maxwell, 2006; Moustakas, 1994; van Manen, 1990).

Participant Selection

Research states that dyslexia affects up to one in five children and is the most common form of learning disability, accounting for 80% of special education students in the nation (Harrar et al., 2014; MacCullagh et al., 2017; 2014; Zambo, 2004). According to the HESA (2015) statistics, it is estimated that students with dyslexia make up roughly 2.4% of the university population. Research indicates that only 2% of the 2.4% of dyslexic learners enrolled in college will ultimately earn a degree (Al-Lamki, 2012; Balfanz et al., 2014). Understanding

factors that impact the success of high-achieving dyslexics will allow researchers to better unveil the plight of the dyslexic student.

A multi-step process following purposeful sampling techniques was used to identify potential participants for this study (Creswell, 2007; Maxwell, 2006; Miles & Huberman, 1994; Patton, 2002). One of the most significant responsibilities of a research study is to identify appropriate participants through selected research questions, theoretical perspectives, and evidence informing the study (Patton, 2002). Purposeful sampling is commonly used to identify and select participants involved in qualitative research method cases relating to the phenomenon of interest (Creswell, 2013; Palinkas et al., 2015; Patton, 2002).

After approval from Northwest Nazarene University's Institutional Review Board (Appendix C) and completion of NIH training (Appendix B), an email was sent out by the Neuhaus Education Center, on behalf of the researcher, requesting the participation of students with dyslexia currently attending a post-secondary institution (Appendix F). The Neuhaus Education Center is a non-for-profit organization that works with child and adult literacy. The targeted participants for this research study included students diagnosed with dyslexia that met the criteria of currently being on track to graduate from a post-secondary university with three semesters or less of coursework remaining, or have recently graduated, and have earned at least a 2.5 GPA at the university level. Participants who met the identified criteria of the study were encouraged to contact the researcher via email.

Individuals who met the criteria were contacted via email and asked to participate in the research study. After permission was granted, a member checking letter (Appendix I) and an Informed Consent Form (Appendix D) was sent to each participant electronically. Eight individuals meeting the specific study criteria were selected to take part in this research

endeavor. All participants were at least eighteen years of age. Table 1 provides information on participants' gender, self-reported university GPA, university, and major. The interviewed subjects were given pseudonyms throughout the study to maintain confidentiality.

Table 1

Participant Profile

Participant Name (Pseudonym)	Gender	Self-Reported GPA	University	Major
John	M	3.0	McMurray	Computer Science
Tom	M	3.0	Prairie View A&M University	Mechanical Engineering
James	M	3.5	Northwest Nazarene University	Business
Mary	F	2.8	Texas Christian University	Kinesiology
Ruth	F	2.8	Purdue University	Animal Science
Esther	F	3.0	Gordon College	Theater Arts
Eve	F	3.0	University of Idaho	Science
Elizabeth	F	3.5	Bradley University	Sociology

Data Collection

Data falls into the four basic categories of observation, interviews, documents, and audiovisual materials (Creswell, 2007). After being given approval from Northwest Nazarene University Institutional Research Board (IRB), the researcher contacted participants. A

recruitment email (Appendix E) was sent explaining the nature of the research. The recruitment

email also stipulated the time span of the interview and informed participants that interviews

would be conducted through a digital format. The researcher interviewed eight participants using

various digital programs such as FaceTime, Google Hangout, and Skype. To qualify as a

participant for this study, members had to be dyslexic and either a current or recent graduate of a

post-secondary university. These participants were also required to have earned a GPA of 2.5 or

greater in university course work, and have three or less semesters of coursework left to fulfil

degree requirements, or have recently graduated. Cooper (2017) states that a researcher in a

qualitative study is the chief investigator and is the primary person responsible for data collection

and the interview process. The researcher in this investigation, coordinated and recorded the

interviews, as well as transcribed the meaningful dialog that took place. The importance of a

phenomenological interview is:

> It is a distinctive feature of social research that the 'objects' studied are in fact 'subjects',
>
> in the sense that they have consciousness and agency. Moreover, unlike physical objects
>
> or animals, they produce accounts of themselves and their worlds. (Hammersley &
>
> Atkinson 2010, p. 97)

The interview and data collection process was conducted over a 3 month period that includes

themes that emerged from the rich dialog presented.

According to Creswell (2013) there are five key steps when conducting an interview in

qualitative research:

1. Conduct an unstructured, open-ended interview and take interview notes.

2. Conduct an unstructured, open ended interview, audiotape the interview and

    transcribe the interview.

3. Conduct a semi-structured interview, audiotape the interview, and transcribe the interview

4. Conduct a focus group interview, audiotape the interview, and transcribe the interview

5. Conduct different types of interviews: e-mail, face-to-face, focus group, online focus group, telephone. (p. 160)

At the root of in-depth interviewing is an interest in understanding the lived experiences of other people and the meaning they make of that experience (Creswell, 2013; Seidman, 2013; van Manen, 1990).

Through the process of examining the factors that influence academic success and what makes these individuals different from the typical dyslexic, the researcher used interviews to fulfill the research design of a phenomenological study. Through the data collection of phenomenological interviews, the story of high achieving dyslexics will be shared to help struggling dyslexics find a path toward academic success. Marshall and Rossman (2016) state that:

Interviews have particular strengths. An interview yields data in quantity quickly. When more than one person participates, the process takes in a wider variety of information than if there were fewer participants- the familiar trade-off between breadth and depth. Immediate follow-up and clarification are possible. Combined with observation, interviews allow the research to understand the meaning that everyday activities hold for people. (p. 101-102)

It is through these interviews that high achieving dyslexic stories of academic success may be heard, understood, and passed on for future benefit toward the educational community. All

interviews were audio taped and fully transcribed. Interview questions were piloted with two high achieving students with dyslexia to validate the interview questions and method of data collection.

To gather rich data, the researcher used interview questions to guide the discussions (Appendix H). Participants were asked to take part in a one-on-one interview with the researcher. The interviews lasted between 30-60 minutes and consisted of semi-structured questions (Appendix H). Some of the interview questions may have resulted in participants feeling uncomfortable or upset. Participants were free to decline to answer any questions that they did not wish to answer and to stop their participation at any time. Participants understood that they had the choice to decline the interview without any negative consequences.

Pilot Interviews

Prior to the scheduling and conducting of official interviews, two pilot interviews were conducted with high-achieving students with dyslexia. The individuals that participated in the pilot interviews were informed that purpose of the interview was to test the interview process and questions. Additionally, the pilot interviewees were informed that the information disclosed in the pilot interview would not be a part of the published work. The pilot revealed a need to expand upon the interview questions, allow for more open-ended responses, and align each question with the purpose of the investigation. Each pilot interview was completed prior to any of the formal interviews designated for data collection.

Interviews

Eight individuals were interviewed for the purpose of gathering data for this researchers investigation into high-achieving dyslexics. Each of the eight participants agreed to informed consent prior to the interview (Appendix D). The one-on-one interviews were conducted over a

digital format including FaceTime, Google Hangout, and Skype. Each of the eight interviews

were digitally recorded on an Apple recording App. Participants agreed to be contacted for

follow-up questions if needed, to expand on or clarify any of their responses. Each interview

lasted between 30 and 90 minutes. The dialog that was recorded between the interviewer and

each participant was transcribed by the researcher, coded, and themes were highlighted. Each

interview is stored within a computer file that is password protected. The computer files will be

destroyed by the researcher three years after the study, in compliance with the Federal wide

Assurance Code (45 CRF 46.117).

Data Analysis Plan

Qualitative data analysis, as depicted in figure 6, can be expressed in three general

phases, (1) arranging and organizing the data, (2) coding the data to find themes, and (3)

discussing and describing the data (Creswell, 2013).

Figure 6

Process of Qualitative Data Analysis
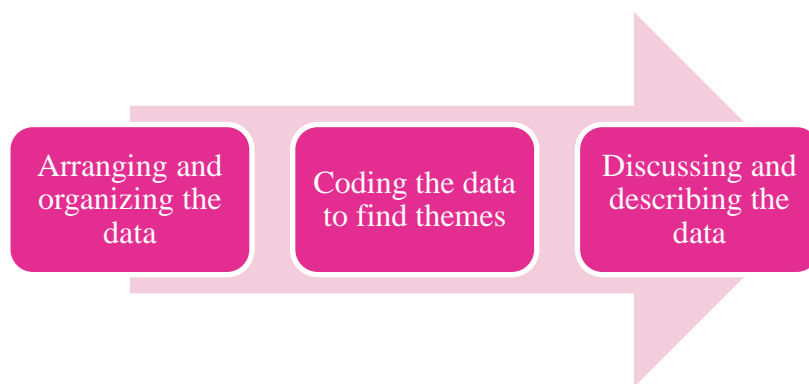
Note. Summary from "Educational Research: Planning, Conducting, and Evaluating Quantitative and Qualitative Research", by J. W. Creswell, 2011, Los Angeles: Prentice Hall.

The statements disclosed by the participants during the interview process were aggressively

scanned to identify any common themes (Creswell, 2015; Magnusson & Marecek, 2015;

Marshall & Rossman, 2016; Strauss & Corbin, 1998). As the interviews were transcribed and placed into themes, systematic memos were used to analyze the data. Through the analysis process, various codes were used to solidify the themes and common verbiage throughout the interviews (Creswell, 2008; Marshall & Rossman, 2016). After solidifying the codes and common themes of the interviews, Microsoft Excel was employed to organize and solidify all common themes and codes. The phenomenological stories that were uncovered through the interviews were consolidated into common themes which allowed the qualitative research to provide meaningful data for the investigation.

Role of the Researcher

The researcher is committed to providing the most ethical investigation possible, giving the participants within the study an accurate voice of the accounts relived. The view of children as social actors propounded by the latest social science studies of childhood can be a limitation (Christensen & Prout, 2002; Portney & Watkins, 2015). Often, child interview participants aim to unknowingly try to please the research investigation (Mockler & Groundwater-Smith, 2015). A dynamic reason for conducting this research was to gain insight into the researcher's own academic successes and struggles within the mindset of being dyslexic. Additionally, this research investigation was conducted to "fill a gap or void in the existing literature" (Creswell, 2008, p. 72). Much of the existing research focusses on what the dyslexic student can't do, and offers little hope to those diagnosed to have academic (Ellis et al., 1996; Fletcher, 2009; Goldstein & Obrzut, 2001; Peterson & Pennington, 2012; Siegel, 2006; Snowling, 2012). The purpose of this research is to show that students with dyslexia can be successful, and what means they take to become high achieving.

Even the most ethical researcher is not without bias (Collier & Mahoney, 1996; Toews et al., 2017). The researcher has been involved in education as a teacher, coach, and mentor for sixteen years. Additionally, the researcher is a high-achieving student with dyslexia. Being diagnosed at an early age, the author's scholastic youth was comprised of attending special education meetings and being told that he was a poor reader because of being labeled as having a learning disability. The researcher believes that a dyslexic individual can academically succeed. Research suggests that dyslexics have difficulty with linguistic abilities, not with intelligence, yet today's educational systems are focused on the label rather than the student (Fletcher, 2009; Snowling, 2012; Waddington et al., 1996). It is understood that when students with dyslexia are given the opportunity to succeed in academic endeavors through social learning, it provides a bridge toward high achievement (Fletcher, 2009; Hornery et al., 2014; Schunk, & DiBenedetto, 2016; Snowling, 2012; Torgensen et al., 2009; Waddington et al., 1996).

Due to the researcher's proximity to the topic of dyslexia, bracketing was used to diminish researcher influence in the data collection process (Chan et al., 2013; Peters & Halcomb, 2015; Sorsa, Kiikkala & Åstedt-Kurki, 2015). Being dyslexic, the researcher had important insight into the disability. This investigation used bracketing accompanied by reflexivity to address researcher bias. As depicted in Figure 7, bracketing refers to a researcher's identification of conferred interests, individual experience, cultural elements, assumptions, and presumptions that could guide the direction of the data (Fischer, 2009; Tufford & Newman, 2012).

Figure 7

The Integration of Bracketing into Qualitative Research
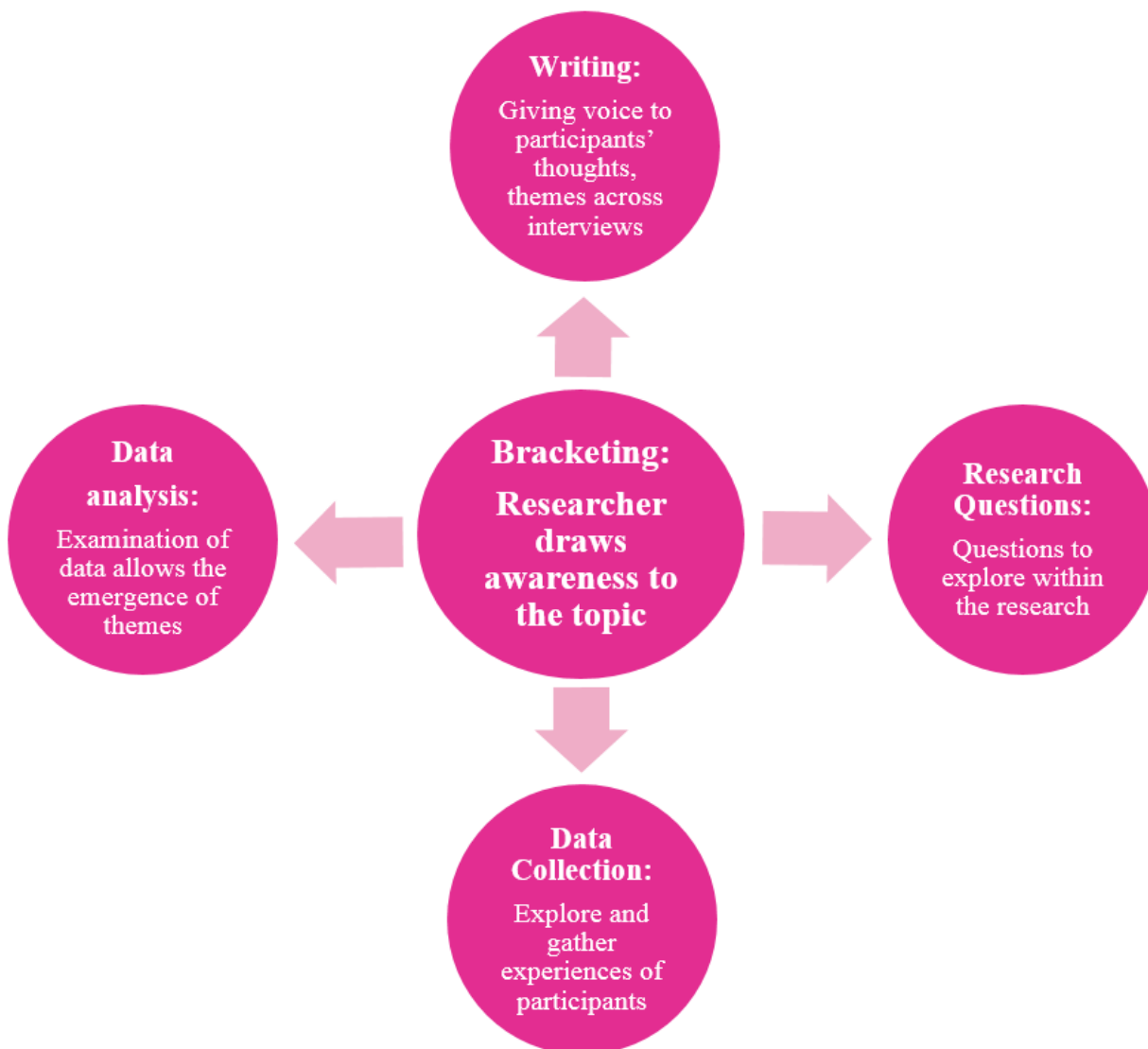
Note. Summary from "Bracketing in qualitative research," by L. Tufford, and P. Newman, 2010, *Qualitative Social Work: Research and Practice, 11*(1), 80-96.

      Bracketing allowed the researcher to remove predispositions and personal experiences throughout data collection process and place the participant at the pinnacle of the research (Chan et al., 2013; Peters & Halcomb, 2015). To ensure the researcher's influences did not interfere

with the participants, a reflective log was kept that recorded the researcher's interactions with the participants throughout the investigatory process (Chan et al., 2013; Wall, Glenn, Mitchinson, & Poole, 2004). As depicted in figure 7, bracketing allows the researcher to explore research questions, discover methods to gather data, examine the data for the emergence of themes, and give a voice to the participants testimonies. Additionally, this log allowed the researcher to journal prior experiences and feelings about the topic before interviews took place (Chan et al., 2013; Creswell, 2008; Marshall & Rossman, 2016). The goal of a good researcher is not to stand by, consuming stories of others, but to be an active participant extracting pertinent information and knowledge from the interviews that will help sustain the investigation and data collected (Maxwell, 2015).

Bias in qualitative research is an important concern, and dictates particular attention to ensure special guidelines have been adhered to (Creswell, 2008; Marshall & Rossman, 2016; Moustakes, 1994). Bias can be an enormous detriment to any ethical research investigation as it can undermine the internal validity of the research if the researcher does not handle bias properly during the investigation (Grimes & Schulz, 2002). Because of the researcher's diagnosis of being dyslexic, it could be stated that the researcher's proximity to the study could result in a biased investigation.

Reflexivity is a commonly used tool in qualitative research that helps legitimize, validate, and question research investigation practices and representations to avoid bias (Berger, 2013; Pillow, 2010; Silverman, 2016). By bracketing the research through reflexivity, the investigation was able to negate all of the researcher's predispositions about high-achieving students with dyslexia by being upfront to the reader and keeping journals and memos of potential bias during the investigations. Horsburgh (2003), states that:

Given that the researcher is intimately involved in both the process and product of the research enterprise, it is necessary for the reader to evaluate the extent to which an author identifies and explicates their involvement and its potential or actual effect upon the findings. (p. 309)

Through the additions of bracketing, and more specifically reflexivity, this investigation has taken the appropriate steps to remove bias that would be harmful to the legitimacy of this research.

Validity Issues

To add validity to the interview process, member checking was conducted. Member checking is a technique used in qualitative research that seeks to explore the credibility of the interview results (Birt et al., 2016; Henwood, 2014). The researcher sent the transcribed and coded interviews back to the participants in order to solidify their responses as correct. Member checking is an important component within qualitative research, and is used to evaluate the accuracy of the researcher's transcriptions and codes of the participant's responses (Birt et al., 2016; Henwood, 2014). To negate bias within the coding process, member checking is a viable resource to authenticate responses given during the interview process. To ensure the legitimacy of a research investigation, member checking can be utilized in order to provide both an assessment of validity and additional data (Birt et al., 2016; Henwood, 2014).

Limitations

Every research study has limitations; the phenomenological study of high achieving dyslexics was no exception. Creswell (2015) notes that "limitations identify potential weaknesses in the study" (p. 148). Limitations that occurred in the investigation included that participants volunteered for the study, research relied on ethical testimony from individuals, a

small sample size, and that accurate interpretation of information was provided in the interview. Policy documents and guidelines concerning the ethical conduct of research have concentrated on vulnerability in terms of limitations of the capacity to provide informed consent (Levine et al., 2004). Due to the learning disability topic of the research, participants may have felt vulnerable and may have provided limitations to the research.

Summary

The purpose of this study was to investigate high achieving students with dyslexia and their ability to academically surpass educational barriers through their development of social learning strategies. This exploration focused specifically on dyslexic individuals that have reached academic levels of high achievement despite their learning disability. This study also aimed to identify explanations of the phenomenon that is the high achieving dyslexic. This research study was performed using a qualitative phenomenological research design. A semi-structured, in-depth interview protocol was used to collect narrative data from the identified participants. Questions were developed based on the review of literature and evolved according to participant response. The selection process of the high-achieving dyslexic participants in this study followed a purposeful sampling strategy. The participants were asked a series of questions relating to their academic abilities and strategies used to overcome educational barriers set by their disorder. After completion of the first interview, the raw data from the developed research questions and observation were read, and then re-read to identify emergent themes. Data was analyzed continuously throughout the research study. Chapter Four provides an analysis of the research data and captures the results. A summary of the findings with conclusions and recommendations for future research will conclude in Chapter Five.

Chapter IV

Results

Introduction

Dyslexic individuals represent the largest population of learning disabled students in the United States, yet only a small percentage of students with dyslexia attend and graduate from a university (Dyslexia Research Institute, 2015; Harrar et al., 2014; Mortimore, 2012; Siegel, 2006; Zambo, 2004). Dyslexic individuals have difficulties with recognizing correct word placement, spelling, phonic accuracies, decoding, and reading comprehension (Hudson et al., 2007; Peterson & Pennington, 2012; Siegel, 2006; Vellutino et al., 2004). Statistical analysis indicates that one-third of students with dyslexia have a below average reading level and rank in the bottom quartile in academics within their student body (Ferrer et al., 2015; Hudson et al., 2007; Siegel, 2006). Research suggests that early interventions and modified learning environments are imperative to a dyslexic student's academic success (Burden & Burdett, 2005; Mather & Wendling, 2012). However, students with dyslexia are vastly underrepresented in collegiate institutions nationwide, and account for approximately 35% of the secondary dropout rate in the United States (Al-Lamki, 2015; Brandt & McIntyre, 2016; NCES, 2017; Redpath et al., 2013; Russak & Hellwing, 2015). Despite the challenges that individuals with dyslexia encounter, research illustrates that this group of students can succeed at equal rates of success as their non-dyslexic counterparts (Cancer et al., 2016; Mourgues et al., 2014; Taylor, 2014). The purpose of this study was to examine factors contributing to the academic success of students with dyslexia and their ability to transcend academic barriers as they continue the journey into post-secondary education.

Emergent Themes

This phenomenological investigation of high achieving students with dyslexia is significant due to the low number of students with dyslexia that are enrolling and graduating from universities. Research indicates only 2% of students with dyslexia graduate from a university compared to a 59% graduation rate from non-dyslexic counterpart students (Al-Lamki, 2015; Brandt & McIntyre, 2016; Redpath et al., 2013; Russak & Hellwing, 2015). The disproportionate graduation rates have provided the inquiry for this investigation. The researcher's goal in this study was to provide insight into the phenomenon of the high-achieving dyslexic student who had surpassed educational barriers and was on track to graduate or had recently graduated from a university. The research questions provided the foundation for the interview protocol (Appendix H). Semi-structured interviews were conducted, individually, with eight, high achieving students with dyslexia. Each of the participants were within three semesters of graduation or had recently graduated from a university. Additionally, all participants held a GPA of a 2.5 or above in their post-secondary coursework. The findings are in accordance with the following research questions:

1. To what do high achieving students with dyslexia attribute to their academic success?
2. How do students with dyslexia perceive the support of family, teachers, and peers toward their academic success?
3. How does the understanding of their learning disability impact the success of students with dyslexia?
4. How do students with dyslexia overcome the academic challenges encountered as a result of their learning disability?

Bandura's (1986, 2011, 2012, 2016) social learning theory provided the framework for exploring how high achieving students with dyslexia transcended academic barriers. In Chapter 4, the key findings and support evidence obtained from the semi-structured phenomenological interviews are presented. The interview questions were organized into four categories that provided the platform in which the participants could expound upon their first-hand experience with dyslexia. The first category of interview questions focused on the participants' abilities to succeed academically. Participants were asked to share their academic experiences and exemplify reasons behind their success. Individuals spoke of educational systems, accommodations, and coping strategies. The second category of interview questions focused on the participants' support systems and how these systems aided in and/or created barriers to their academic success. Participants were asked reflect on their educational journey. Each individual shared memories of individuals such as parents, siblings, teachers, and coaches who assisted them throughout their academic careers. The theme of child advocacy emerged from the analysis of the data gathered in this category of interview questions. Within the interview protocol, a third set of categorized questions were identified that provided insight into the self-knowledge of the dyslexic participants. In this set of questions, individuals were asked about their youth, what they recall about their own learning, and the process of accepting the diagnosis of being a student with a learning disability. Major concepts that derived from the third category of interview questions were the importance of knowing the characteristics of dyslexia, the background of dyslexia in the family, the personal successes and struggles, as well as the participants' self-efficacy as a learner. The responses to the third category of interview questions developed into the theme of self-knowledge. The final category of questions promoted the discussion of how students with dyslexia overcame their learning disability. Participants were asked about their

school lives as well as their extra-curricular interests. Additionally, questions highlighted the

participants' personal beliefs as to why they felt they succeeded academically. Collectively,

participants spoke of the importance of activities and other outlets, motivation, and will power.

The theme of intrinsic traits and extrinsic factors developed from this set of data.   Table 2

represents the codes with corresponding themes that emerged from the interview process.

Table 2

List of four themes and categories

Research	Categories	Codes	Themes
Question #1	Attributes toward academic success	Education systems, accommodations, coping strategies	Academic skills
Question #2	Support systems	Parent support, sibling support, teacher/coach support	Child advocacy
Question #3	Understanding of personal needs	Characteristics of dyslexia, family history of dyslexia, success and struggles, self-efficacy	Self-knowledge
Question #4	Traits and factors that aide in overcoming challenges	Intrinsic and extrinsic motivation	Motivation

Research Participants Profile

    Eight, high-achieving students with dyslexia participated in the research study.

Participants were given pseudonyms to protect their identities throughout the research process.

The pseudonyms given were John, Thomas, Mary, James, Eve, Ester, Ruth, and Elizabeth.

These eight individuals provided rich data derived from their lived experiences. The participants

of this investigation consisted of five females and three males that ranged in age from 21 – 27 years old and had an average grade point average (GPA) of 3.075 out of a 4.0 scale. Of the eight participants, four were currently enrolled at a post-secondary institution and were within three semesters of graduation. The remaining four participants had recently graduated with their bachelor's degree. All participants had an earned GPA of a 2.5 or higher in their university coursework. Table 3 provides a breakdown of the participants' gender, GPA, college status, degree earned or pursuing, ethnicity, and geographic region of education.

Table 3

Participants' Profiles

Pseudonym	Gender	GPA	College status	Degree Earned or Pursuing	Ethnicity	Geographic Region of Education
John	Male	3.0	Senior Expected graduation date May 2018	Computer Science	Caucasian	South
Thomas	Male	3.0	Senior Expected graduation date May 2018	Mechanical Engineering	African American	South
Mary	Female	2.8	Senior Expected graduation date May 2018	Kinesiology	Hispanic	South
James	Male	3.5	Junior Expected Graduation Date December 2018	Business	Caucasian	North west/ Midwest
Eve	Female	3.0	Graduated May 2017	Science	Caucasian	West coast/North west/ East coast
Esther	Female	3.0	Graduated May 2017	Theater Studies	Caucasian	East Coast
Ruth	Female	2.8	Graduated May 2017	Science Pre-vet program	Caucasian	Oversees/South/Mid-west
Elizabeth	Female	3.5	Graduated May 2017	Sociology	Caucasian	South/ Midwest

Interview participants were selected to represent a range of demographics, thus

representing the overall dyslexic population. Purposeful sampling was used to create a

population of participants that fit the research criteria (Creswell, 2011; Polkinghorne, 2005). The selection of participants from varied geographic regions, education systems, and ethnicities served to "deepen the understanding of the investigated experience," and thus created an in-depth investigation (Polkinghorne, 2005, p. 139). Dyslexia does not discriminate, and the participant pool reflected the diversity of the learning disability.

Each participant in the study brought a unique story that provided data on the ability for students with dyslexia to academically succeed at the post-secondary level. Out of the eight participants, six (John, Thomas, Mary, James, Ruth, and Elizabeth) were first generation college students. The other two participants (Eve and Ester) were raised in families where both parents graduated from college. For Eve and Esther, education was a valued piece of their families' characters. Both individuals spoke of family financial success and how her family's socioeconomic status allowed for the ability to attend costly, alternative education systems. All eight participants had older siblings and offered that their siblings were involved in assisting during the formative years of their education. The siblings acted as an extension of the assistance received from their parents. Participants told stories of their brothers and/or sisters reading to them at night and helping complete homework when a parent was not able or willing. Throughout each interview, participants lauded the impact that their parents, siblings, family, and friends had on their ability to succeed academically and to transition from a struggling student to one succeeding at the university level.

The way in which each participant was able to circumvent the academic boundaries set by their disability provides the foundation of this research investigation. The participants spoke at length about being labeled as a dyslexic and the embarrassment, as well as social shame, that existed because of having reading difficulties.

Results for Research Question One: Attribute to Academic Success

Research states that the majority of students with dyslexia do not attend college nor graduate with a bachelor's degree (Ball, 2015; Harwell & Jackson, 2008; Peterson & Pennington, 2012; Torgensen et al., 2009). National studies indicate that one third of the dyslexic population is reading at a substandard rate (Ferrer et al., 2015; Hudson et al., 2007; Siegel, 2006). Additionally, 62% of the dyslexic population mentioned will endure academic setbacks and ultimately never reach post-secondary education (Ferrer et al., 2015; Hudson et al., 2007; Siegel, 2006). However, despite such academic barriers, a small population of dyslexics are finding success within the academic setting. (Al-Lamki, 2015; Brandt & McIntyre, 2016; Redpath et al., 2013; Russak & Hellwing, 2015). It is within this population that this research investigation is based. The first research questions asked:

To what do high achieving students with dyslexia attribute their academic success?

To fully answer the first research question, participants were asked to describe their educational background, accommodations received, and coping strategies developed to work through their disability. Each participant provided a means to how the education system and the way in which they were instructed paved a path toward academic growth. Within the structure of the education system, each participant spoke of the accommodations received and how they provided the ability to facilitate academic challenges. Coping strategies emerged as a significant component to the first research question. Participants explained how their ability to initiate coping strategies allowed them to maneuver around their disability, allowing for academic successes. From the categories of educational systems, accommodations, and coping strategies, the theme of academic skills was derived.

Themes for Research Question One

Theme	Codes
Academic skills	Educational systems, Accommodations, Coping strategies

All eight participants reflected on the type of educational systems where they experienced

academic accommodations, as well as coping strategies that aided in their academic

performance. Table 4 provides the frequency of response codes under the theme of academic

skills.

Table 4

Academic Skills

Academic Skills that Made a Positive Impact	Frequency of Description
Educational Systems	
Early interventions	4 of 8 participants
Variety of educational experiences	8 of 8 participants
Accommodations	
Out-of-class support	8 of 8 participants
In-class support	7 of 8 participants
The use of a resource center	7 of 8 participants
Coping Strategies	
Educational techniques	8 of 8 participants
Use of technology	7 of 8 participants

Educational Systems

Educational systems play an important role in how an individual learns and grows as a

student. The system in which a student learns provides the framework in which their education

is built upon (Entwistle & Ramsden, 2015). Nontraditional schooling, early interventions, specialized curriculum, tactile learning, and a variety of educational experiences all blend together to form the theme of educational systems.

Four of the eight participants (Thomas, Mary, John, and Elizabeth), or 50%, stated that early interventions had a direct impact on their academic success. Each of these four participants discussed ways in which early interventions assisted with their ability to overcome the challenges of having dyslexia. Thomas recalled such interventions stating:

> I was about eight or nine years old when teachers started noticing and helping me with my problems. In one way, it made me feel different, and I hated that, but on the other hand, I would have fallen so behind without their extra help.

John had a similar experience with early interventions, articulating:

> I was first diagnosed with dyslexia in kindergarten, which is really early. I benefited from interventions not too long after that. I remember being taken out of class and thinking I was in some kind of trouble. It was good for me, I didn't like feeling different, but it really helped.

Elizabeth remembered her early interventions and how such helped her succeed in class. :

> My school was super small, like 16 students per grade. Yeah, if I was pulled out everyone knew, but honestly, I was in a super supportive atmosphere. All my friends knew I had trouble reading and it was not biggie. I remember being pulled out starting in first grade and it continued throughout high school. We would work on stuff that the teacher was going to cover in the next few classes. It was kind of like watching a movie before you read a book, you know the basic jist of things and it gives you a little advantage. And let me tell you, I needed that advantage to survive.

The voices of Thomas, John, Mary, and Elizabeth detailed the first hand, lived experiences of the importance of early interventions on academic success for students with dyslexia. The provided accounts as well as the impact of such are examples of the importance of early interventions as it relates to dyslexic development.

Variety of educational experiences. Nontraditional schooling, as refined in this research investigation, refers to the education that exists outside of the traditional public school experience. All eight participants within this study (John, Thomas, Mary, James, Eve, Elizabeth, Ruth, and Ester) supported the importance of educational systems. Throughout all of the interviews, participants spoke of how nontraditional educational systems provided an alternate way to learn. Thus contributing to academic success. Five of the eight participants (Eve, Elizabeth, James, Ruth, and Esther), or 62.5%, commented on how nontraditional education served as an integral piece of their academic development. Eve shared how nontraditional schooling assisted her in her development.

> [The school I attended] was huge because they taught you how to learn differently. So, I would leave class exhausted because my brain was like on fire from trying to rewire. So from day one everything they taught you was based on your disability. The most important thing they did was teach you how to learn.

Elizabeth's statement also describes how nontraditional schooling, such as Montessori was beneficial.

> When I was diagnosed, I went to a Montessori school. Montessori was an awesome place to learn…. I remember one lesson that had these colored beads that you would use with math problems. It started to click. Yeah it [Montessori] was a huge influence and allowed me to learn.

Elizabeth and Eve also discussed the importance of tactile learning as an important facet of education that helped them academically succeed despite the challenges presented by having dyslexia. Of the eight participants, three others shared stories similar to Elizabeth and Eve. Elizabeth articulated the role of tactile learning in her success, stating "everything there [Montessori] was very tactile and helped me learn. A lot of moving around the room, different types of lessons that looking back were kind of neat."

Eve discussed going to a school which specialized in tactile learning. She references her experiences at her specialized learning institution as being "truly beneficial".

I would not know where I would be today without the education I received at [my school]. We did stuff like go on nature walks for science class and create plays for art. We were always up moving around and learning something. After my first few days at [school] my brain was literally on fire.

Ester reinforced the theme that nontraditional education positively influenced students with dyslexia learning stating:

So my mom became really fed up with the public school; I just wasn't getting it. Mom enrolled me in this school that specialized in learning through the arts. It was awesome. I was really into theater, but I never knew that an entire school could be taught so differently. I remember we had a history lesson were each of us had to memorize lines in a play and perform in front of the class. It was about the taxi strike in the 1920's. To this day, I can still remember who had what part, the storyline, and the historical aspects. It just wasn't reading about some facts, we lived and experienced the story it made it really stick.

The statements expressed by Eve, Elizabeth, and Esther exemplify the importance of nontraditional schooling as an option to assist in the academic growth of students with dyslexia. In each account, the participants spoke of how their diverse educational backgrounds enriched their learning.

Eve had a unique outlook on specialized curriculum.

I am fortunate to have traveled all over the world and to have seen different education systems and how each country tackles learning disabilities. Honestly, the United States probably does the worst job of any country. I spent some time in Germany, and when I was in school there, they pretty much tailored the curriculum to my unique needs. I guess I always thought that is what schools are supposed to do. It's not like I was getting all A's, but providing different assignments and ways to grade me allowed me not to fall behind.

Ester provided a similar experience with specialized curriculum.

It was kind of funny the way my school did things. Once a month they would deliver a box that was wrapped like a Christmas present for me. Inside the box were these books called *Little Critters*. While everyone else was reading Judy Bloom and the Hardy Brothers, I had lower leveled books, but it worked.

Ruth recalls her specialized curriculum providing what she needed to succeed in school early on. "School has been a love hate relationship for me, but I will say most of my teachers tried to switch up things up. [They] always had something different for me to do."

Elizabeth commented that, "I went to such a small school, that it seemed that everyone there had specialized schooling. One thing I remember is that my teacher would allow me to pick books that interested me. It really sparked my interest in reading."

The lived experiences of all eight participants created a well-described picture of the importance of specialized curriculum as it pertains to the academic development of students with dyslexia.

Tactile learning. Tactile education occurs when students use physical activities to promote learning (Baglieri & Knopf, 2004; Harrar et al., 2014; MacCullagh et al., 2017; Mills, 2018). Five of the eight participants or 62.5% described tactile learning as a significant piece of the educational makeup for them as a student with dyslexia.

Elizabeth commented on the importance of tactile learning recalling that "everything there [Montessori] was very tactile and helped me learn. A lot of moving around the room, different types of lessons that looking back were kind of neat." Ester reinforced Elizabeth's comment stating, "sometimes it just helps out when you can move around the room, build and create things instead of just sitting and taking notes or listening to a lecture."

Accommodations. Often students with dyslexia can have difficulty with spelling, reading, listening, writing, motor control, memory skills, and special/temporal confusion (Vellutino, Fletcher, Snowling, & Scanlon, 2004). Accommodations are aides that are given to students in order to assist with their development of the unaltered curriculum (Prater et al., 2014). All eight participants (100%) of the study were given certain accommodations to help alleviate characteristics of dyslexia throughout their schooling. The ability for students with dyslexia to use their accommodations assist them in dealing with the characteristics of dyslexia and can have a significant positive effect on their success rate (Hulme et al., 2015; Im, Raschle, Smith, Grant, & Gaab, 2015). The ways in which accommodations help overcome the academic barriers of dyslexia was expressed Eve:

Probably the most important accommodation that I still use today is double time on tests

because then I'm not um just constantly looking at the clock, at my test, back to the clock

and to my test which is counterproductive. Having double time kinda takes away the

factor of um freaking out and trying to hurry through questions. Yeah, just looking at the

questions and knowing I have two or three minutes to read the question if I need to is

such a huge help.

Thomas provided additional statements that illustrated the importance of classroom pull-outs and

tutoring as a means that attributed to his academic success.

I was pulled out of class starting in third grade. Yeah it was really helpful, but kinda

awkward having to leave the class. We would play games, like word games and go over

homework and stuff. She (dyslexia specialist) helped me when I got confused. Her name

was [teacher's name], and she was awesome. I even went to her when I got older

because when I got to junior high they didn't have a person in her position so my mom

would drive me back to the elementary to get help.

Coping Strategies.

An additional strategy that was brought to light thronght he interviews was that of coping

strategies. Throughout the interviews, participants reiterated what research has stated about the

necessity for the developing of coping strategies. All eight participants (100%), expressed the

need to coping strategies as a means to overcome their learning disability. Ester exemplified the

importance of coping strategies through her comment:

Bullet point outlines really help me you know put the big ideas and the bulk of the

information together with like key points and areas that I can put further explanations of

the topics if I need to. I also use lots of colors. Colors have really helped me a lot. I use

certain colors for certain things. For example, all my definitions are blocked out in red

and written in blue. And like my key points are usually in purple with sub key points in green. I have noticed that this has helped me so much remembering information especially when you have one of those text heavy books or pages and pages of notes.

James commented on the importance of using a tracker in a coping mechanism to enhance their reading skills:

Well when I read I found out the my right eye doesn't track very well. Kinda makes reading hard when your one eye is jumping around. But using a strip of paper or my finger to track you know helps my eyes stay where they are supposed to be reading.

Additionally, Elizabeth supported the need to use coping strategies to heighten her academic skills through the statement:

One thing I stared doing early on in school was using a bookmark to help track the words while I read. This helped me so much to just you know keep focused. It helps me with reading so much I still use it today.

Seven out of the eight participants (87.5%) stated that they used some sort of technology as a coping strategy to combat the effects of dyslexia. Coping strategies that were discussed were audio books, recording class lectures and speak to text computer applications. John remembers when he first used the type to text program:

Yeah, it [type to text] really helped a lot. I was always misspelling things and it too just too long to try to keep up in class. So on of my teachers suggested my sit up front with the aides computer. She had this program that recorded everything he said and put it in a word document. Super cool. You have no idea how much that helped me.

Ruth also exemplified great gratitude for the use of technology as a coping strategiy in her classes:

Reading has always been tough for me, but science textbooks were especially long and

let's face it pretty boring at times. But being a science major it was something I was

going to have to do. I started using audio books to help break up the reading, but I really

preferred it [audio books] so I started using them all the time. I was someone who always

dreaded reading, but know it's not that bad.

Results for Research Question Two: The Need of Support Structures for Academic Success

Individuals that took part in this investigation were asked to describe support structures

and instances of child advocacy in the context of their learning disability. Each participant told

stories about how their families, siblings, teachers, and coaches provided structure and guidance

that aided in their ability to succeed academically. The following codes developed throughout

the interview process and informed research question number two: family support and school

employee support. Specifically, research question number two asked, "How do students with

dyslexia perceive the support of family, teachers, and peers toward their academic success?"

The codes were combined under the theme of child advocacy and provide insight on how support

systems aid in dyslexic individuals ability to overcome the barriers that exist because of their

learning disability. Table 5 provides the frequency of response codes under the theme of child

advocacy.

Theme for Research Question Two

Theme	Codes
Child Advocacy	Family Support School Employee Support

Each of the eight participants gave examples of child advocacy that they had experienced, and how family support, as well as support from school employees, assisted in their academic development. Table 5 tracks the frequency of the participant's responses to the theme of child advocacy.

Table 5

Child Advocacy Aiding in Academic Success

Support that had a Positive Impact on Student Success	Frequency of Description
Family Support	
Assisting with schoolwork	8 of 8 participants
Support in the school	8 of 8 participants
School Employee Support	
Teacher as a support system	7 of 8 participants
Coaches/sponsors as a support system	4 of 8 participants

Family Support

During the interviews, all eight participants discussed the role of their family and the support that they gave. Participants shared how both parents and siblings served as advocates in their learning. Child advocacy played a crucial role in the ability for dyslexic individuals to academically succeed. All participants stated that their families played a fundamental role in establishing academic development through assisting with schoolwork and advocating for their needs within the school.

Eve discussed the role her mother played as a child advocate and how she assisted with schoolwork:

My mom was a massive support system. I remember that she was like superwoman.

Immediately after we found out I was having issues reading she checked out all

these books about dyslexia and tried to help. She [my mom] was never trying to fix me,

she just wanted to help.

During the interviews, advocacy was represented by parental love and support. Ruth's comments

reiterated the importance that parental advocacy had in her academic success.

All the way growing up my mom used to say that I could do anything. I think that was

one of the things that kept me most on track. My mom gave up so many of her nights for

me. We used to sit at the table and go over homework and read until sometimes I used to

be in tears. My mom used to know just what to say to stop my tears. My friends were all

out playing, but I would sit in the kitchen with my mom doing homework. She [my

mom] was so patient with me and she used to tell me if you're willing to work for it you

can get whatever you want in this life. You hear that enough times and I think it sinks in.

Of the eight participants Mary, James, Eve, and Ruth, or 50% stated that their siblings served as

an advocate and positively affected their academic development. Eve recalled the times when

her sister would stay up and assist with schoolwork:

My sister would read to me every night and help me study. This was on top of all her

homework and studying. My parents sometimes would get so frustrated with me why I

wasn't getting it, but my sister knew I was trying my best.

Similarly, Ruth recalls how her siblings helped her adjust and supported her unique academic

needs as a dyslexic student:

My brothers would always try and encourage me [telling me things] like you know you

can do this and we believe in you sis. My brothers would help me with my homework

and remembering my backpack at school. I would always forget that thing and it would

drive my parents crazy. They [my brothers] were such high achievers and always got great grades, but they never made me feel stupid. Actually, it was the opposite they [my brothers] made me work twice as hard because I wanted to be just like them.

Additionally, participants spoke of the advocacy their family provided within the actual school building school as contributed factors to their academic success. Collectively, all eight participants recalled family support occurring within the school. Eve recollected her mother "fighting" for her rights:

Upon going to a new school, my sister and I were placed in a special education classroom. That day my mother was up at that [explicit] school the next day. Yeah so, my parents were huge advocates for my sister and I. My parents would go out and buy books for each of my teachers all the way throughout high school. The books explained dyslexia and how dyslexics learn. They [my mom and dad] went to every IEP meeting and would raise hell and threaten to pull us [my sister and I] out if they thought for a second we weren't getting what we needed to succeed in school. And that's exactly what happened. My mom pulled us out of that hell and started home schooling us. My mom's a fighter and she is going to kick anyone's butt who mistreats my sister and I or doesn't give us what we need.

James had similar comments regarding his parents serving as advocates for him in the school. Both James's mother and father took an active role in school meetings and conferences for the betterment of his educations.

My parents were always up at school, you would have thought they worked there. They met with teachers, principals, councilors – you name it. They were frustrated on how things [school] was going and they needed answers.

Thomas's experiences of parental advocacy within the school building was similar.

> Yeah the last thing a school wants is a pissed off black lady and that's what they got. My mom would march up in that place and give them hell. Some teachers just wouldn't help me out, that all changed after mom met with them.

School Employee Support

In addition to family support, participants shared how teachers and school employees played a pivotal role in the development of their academic growth. Each of the eight participants were asked what other support systems existed outside of their family that promoted academic success. Six of the eight participants (John, Mary, James, Eve, Ester, and Ruth), or 75%, shared that their teachers provided necessary facilitation and advocacy in their academic development. James provided a first-hand account of how his teacher served as an advocate for his learning.

> Mrs. [teacher's name] is completely and still is the reason why I think I am where I am today. And that I am able to have success in school. She [teacher] took time out of her own schedule and really tested me and made sure I understood expectations, content, processes, and testing. Man, she [teacher] was amazing! It was all personal for her. She truly wanted to help me, work with me, and make me a better student for the long run.

Mary exemplified how one of her teachers was an advocate for her academic growth.

> Mrs. [teacher's name] was my second… no, third grade teacher and I remember she was such a help to me in my reading struggles. She was good, always pointing out things I did right. When I got to junior high, there really wasn't anybody that could help me so my mom would drive me to the elementary school so Ms. Hatton could still help me. She was the one who started me using audio tapes to help guide me as I read. I owe her so much.

Participants within this investigation sought an outlet for their disability in sports or other activities. The coaches and sponsors of the eight individuals interviewed served a fundamental role in their academic success. Four of the eight participants (John, Thomas, Ester, and Mary), or 50%, shared accounts of how a coach or sponsor acted as a major contributor to their academic successes. Both John and Thomas were very successful high school athletes and later went on to play collegiate sports. Thomas spoke about the respect and gratitude he had for his high school football coach. Thomas recalled his interactions with a past coach:

> High school was interesting because I was a bit rambunctious and my mom started dating a guy I really didn't like. My football coach stepped in and became like a father to me. He [Coach] set up study halls for me and tutors to help me get through some of my tough classes. He [Coach] really knew what was best for me. He challenged me to be a better me. I owe him so much; he just made such a difference.

Ester recalled the importance that her theater sponsor played in her academic success.

> My theater director knew I couldn't read very well, but he cast me in the play anyway. He would say in front of the other actors that I had real talent. That made me feel special, like I was somebody. I went home and memorized Romeo and Juliet so I wouldn't let him down. He was probably the first person that didn't treat me different. I respected that and still do.

The lived experiences shared by the eight participants in this study highlight the importance of child advocacy as a contributing factor of academic success.

Results for Research Question Three: Knowing Self Impacting Success

> How do high achieving dyslexics use self-knowledge to aid toward their academic success?

To completely respond to the third research question, participants were asked to elaborate on their knowledge of dyslexia, their strengths and weaknesses, and their self-efficacy. Through the semi-structured interviews, participants exemplified the importance of understanding what dyslexia was, what characteristics are aligned with the learning disorder, and how this knowledge assisted with their academic growth. The understanding of individual strengths and weaknesses emerged through discussions with the eight participants, as well as how this knowledge better equipped them for academic success. Additionally, participants spoke volumes about the need for self-efficacy, and how one's own belief in the ability to succeed can propel a struggling student through academic challenges. These responses to the interview questions were grouped in the theme of self-knowledge. All of the eight participants delivered strong examples of how self-knowledge provided a necessary rung in the ladder toward academic success of students with dyslexia.

Theme for Research Question Three

Theme	Codes
Self-knowledge	Knowledge of dyslexia, Strengths and weaknesses, Self-efficacy

Throughout the interview process, participants echoed how self-knowledge was an important facet of their academic growth. Table 6 illustrates the frequencies that each participant recalled self-knowledge aiding in their academic success.

Table 6

Self-Knowledge Aiding in Academic Success

Self-Knowledge that Made a Positive Impact	Frequency of Description
Knowledge of Dyslexia	
Being diagnosed	8 of 8 participants
History of family dyslexia	5 of 8 participants
Strengths and Weaknesses	
Participants who knew their difficulties	8 of 8 participants
Participants who knew their successes	7 of 8 participants
Self-Efficacy	
Feeling different	8 of 8 participants
Setting goals	5 of 8 participants
Confidence in Abilities	4 of 8 participants

Knowledge of dyslexia

All eight participants spoke of their knowledge about dyslexia. Participants shared their stories of being diagnosed as well as their family history of dyslexia. Additionally, they provided connections as to how such knowledge shaped their academic abilities.

Being diagnosed. All eight participants provided evidence that being diagnosed aided in their academic development. Thomas shared his story of when he was diagnosed with dyslexia:

I would say I was diagnosed in second or third grade, maybe 8 or 9 years old. I remember it was a huge relief knowing why I was having trouble. I mean, I wasn't excited that I had this label that I was different, but I guess knowing what's wrong you can set a plan to attack things. And that's what we did and it started to work.

Ruth remembers how the early dyslexic diagnosis impacted her academic life. Ruth remembers the impact that being diagnosed as dyslexic had on her:

> So, some kids find out they are dyslexic later in life, but we (my mom and me) found out when I was in second grade. Yeah, I just remember being convinced that I was stupid. It was so frustrating, everyone else in class was getting it and I was always having trouble. But now I knew why and there was a reason for my difficulties. It was honestly such a load off. You know not being able to read has a huge impact on a kid. I remember going to the library and seeing those posters that say reading is fun, well it wasn't for me. But now my mom and me knew the problem and we started to adjust my learning.

Adversely, Ester was not officially diagnosed until college. Ruth provides her experiences with being diagnosed and the relief that it brought:

> I wasn't diagnosed until I was in college. It was excruciating growing up your entire life thinking that you're just stupid. I spent so much time thinking about why I just couldn't get things, it was so exhausting. But now it's like you have an owner's manual about yourself. I am finding stuff out all the time about dyslexia that really would have stopped some tears when I was younger. I think it is a huge benefit to one being diagnosed as early as possible, but maybe more importantly know who you are and the struggles you might have.

History of family dyslexia. During the interviews, participants were asked to elaborate on their parents' knowledge of dyslexia. Of the eight participants, Ester, Eve and Mary all had family members with first-hand knowledge of dyslexia. Ester stated how she gained respect for her father through his mentorship and understanding of what it feels like to be dyslexic. Ester recalled:

My dad was dyslexic, and you know he grew up in a different time. There wasn't really much knowledge about dyslexia back then as there is now. I see that there were a lot of setbacks for him. My grandfather was, you know, very strict with him. I heard a story that when he was in school they [teachers] would take his eraser away and he only had one chance to do it right. You know, that's a really tough environment. It totally made me appreciate his struggles, and where he is today… He [my father] struggled with me being dyslexic, but he definitely did not want me to grow up like he did where being dyslexic was bad.

Two of the participants shared that they had a sibling that also had dyslexia. Eve stated that her father and sister were both dyslexic. She recalled the unique bond that she and her sister had:

I don't remember who was diagnosed first, my sister or I, but we were able to rely on each other, you know. We were always there for each other and would help each other cope. It's not like we would help each other read and stuff because we both couldn't, but it was nice knowing someone so close knew exactly what you were going through.

Strengths and Weaknesses

Knowing your abilities and areas of need is an important attribute for successful students (Sawyer, Graham, & Harris, 1992). Each of the eight participants gave authentic examples of how knowing their strengths and weaknesses aided in their academic development. Furthermore, the participants spoke at length about choosing areas of study that they knew they could succeed in, and avoiding those areas of weakness.

Participant's strengths. All eight participants were able to identify academic areas in which they had success. Ester explained the importance of discovering what she was good at and the necessity to develop certain skills:

I always struggled with reading, I mean like C's and D's struggle. It wasn't till the 9th grade that we read Shakespeare that I really started loving to read and succeeding at it. You know, plays are written in a different format. I guess my eyes like that format better. I would go home and bury myself in Romeo and Juliet, Macbeth, and other Shakespeare works. I still can't really read a textbook or novel well, but give me a play and I'll read it in a day. In fact, my sister who is not dyslexic loves to read so I gave her one of my plays. It took her like a week to read, and I was like are you kidding me. I can finish a play in performance style in like 2 hours.

Other participants, John, Mary, Elizabeth, and James, shared that knowing their personal strengths added to their self-worth. John expressed that "being good at something makes all the difference in the world. It's like you can carry that success over to other areas in school."

Participant's weaknesses. Each of the eight participants answered questions about difficulties that they possess that stem from their dyslexic disability. Five of the eight participants, or 62.5%, (John, Thomas, Mary, James, and Ruth) used their knowledge of what they struggled in to assist in the development of their total academic skillset. John reflected that he was cognizant of his weaknesses through the comment:

I always had trouble with reading and writing. I would dread going to those classes, and most of my energy was spent just not failing those classes. It seems like my eyes and brain just get confused when looking at books and writing papers.

He went on to say:

Math was another story. I like math and it makes sense to me. I guess that's why I decided to study computer science. It's a lot of math and equations, even the writing isn't like English papers, it's more like codes and stuff.

The participants exemplified, through their lived experiences, that knowing one's strengths and weaknesses proved valuable in the learning process. Each of the eight participants had trouble in school, yet were able to focus on their strengths to achieve academic success.

Self-Efficacy

Throughout the semi-structured interviews, all eight of the participants commented on how self-efficacy served as a catalyst toward their academic success. Additionally, each participant stated how feeling different, setting goals, and having confidence in their abilities provided a necessary push toward academic success.

Feeling different. All eight participants expressed that they had felt different throughout their education; however, 62.5% of the participants, Ester, Eve, Elizabeth, Ruth, and James, commented that being different was "ok" and that such feelings helped them "become the person they are today." As expressed by Ruth:

Being different doesn't mean the end of the world and that feeling can make all the difference. Even when your parents slip and say what you did was stupid, it was frustrating but I knew I could accomplish things. We [dyslexics] already think we are the worst kid because we can't read or spell well, but when you start to do well that's an awesome feeling. You think, man I can do this even with this disability. It doesn't matter what people say anymore, I knew that I could become somebody.

James added, "Everyone is different and beautiful in their own way. Being dyslexic allows me to do some things really, really well." Elizabeth explained that dyslexia was not a disability, but rather a "learning difference."

Setting Goals. Five of the eight participants discussed setting goals as a part of their self-efficacy. Eve, Ruth, Thomas, Mary, and Elizabeth all shared that setting goals was a regimented routine that allowed them to set standards in which to reach. As Mary recalled:

Graduating college was a goal that I had as long as I remember. I printed out quotes, articles and goals and stuck them on wall. I look at them every day. My favorite is "You are going to do this!" It [the quote] applies to everything. Yeah, no one thought I was going to graduate high school, but I put that goal out there and now I'm about to graduate college.

Eve talked about how setting goals provided the framework in which she could achieve whatever she put her mind too. "Without having the goal to succeed none of this [academic success] would have happened." She went on to say that when she, "made small obtainable goals" her ability to succeed and "build momentum toward success" increased.

Confidence. Ruth, James, Ester, and Eve all expressed that their academic success was achieved though their confidence in their own abilities. As Esters shared in her interview, "I always know that I could do anything, and that's so important." Having confidence and owning your self was a significant attribute shared by the high achieving students with dyslexia that took part in this study. Ruth shared her experiences with self-confidence, stating:

It didn't matter what anyone else thought, you know, I knew I could do it. My mom always said 'believe in yourself and good things will happen.' Funny how moms are always right. But I believed that I could graduate college and here I am about to achieve what some would have called impossible.

The theme of self-knowledge came through in the stories shared by all eight participants. Each participant was able to use their personal knowledge of dyslexia, their academic strengths and weaknesses, as well as self-efficacy to facilitate academic success.

Results for Research Question Four: Motivational Achievement Factors

Through the interview process, participants were asked to discuss what propelled them to want to succeed academically. In their answers to the semi-structured questions, each of the eight participants responded that motivation played an enormous role in their academic development. However, the responses of motivation were broken up into both intrinsic and extrinsic factors. The participants described such intrinsic factors as grit and a search for knowledge that drove them to succeed academically. Other participants described extrinsic factors such as praise, recognition from others, and the ability to join certain activities as motivating factors.

Themes for Research Question Four

Theme	Codes
Motivation	Intrinsic, extrinsic

Table 7 illustrates the frequency that each participant commented that motivation was a driving factor that lead to academic success. The theme of motivation was broken down into the codes of intrinsic and extrinsic factors.

Table 7

Motivation Aiding in Academic Success

Impact of Motivation on Academic Success	Frequency of Description
Intrinsic	
Grit	8 of 8 participants
Search for knowledge	4 of 8 participants
Extrinsic	
Activities	7 of 8 participants
Praise and recognition	6 of 8 participants

Motivation

Throughout the individual interviews, each of the eight participants relived the experiences that impacted their ability to succeed. As the semi-structured interviews commenced, the theme of motivation was an aspect that surfaced for each of the eight high-achieving students with dyslexia. Through analyzing the responses, two codes developed within the theme of motivation. Both intrinsic and extrinsic motivational factors contributed to the academic growth of each participant.

Intrinsic motivation. All eight participants shared the importance of motivation, and a desire to succeed as a major factor in their academic success. The intrinsic motivation was broken down into both grit and a personal search for knowledge. Ruth articulated this intrinsic motivational factor when she stated:

I would just try and try and try until I got it. It would take me two or three times the

amount of time that other kids would be spending on homework, but that's just the way it

was. Sometimes getting an A didn't happen, but I tried and tried and that grade always

motivated me. And sometimes I had to push harder to get it, but when I did it felt

awesome.

Eve shared similar stories of how her motivation allowed her to overcome academic challenges;

"Everybody always says that I was a fighter and I was going to fight for what I needed. And

that's what I did, no matter how long things took, I got them done."

All eight participants gave examples of how grit, the unrelenting desire to succeed,

provided the necessary motivation to allow them to achieve academic success. The eight

participants also provided statements saying that grit allowed them to academically succeed in

the face of adversity.

In addition to having grit as a motivating factor, three of the eight participants (Thomas,

Ester, Elizabeth) added that an inner thirst for knowledge was the driving factor behind their

academic success. Thomas stated that, "I always had this curiosity and wanted to keep learning,

even if it did take me a little longer." Ester added, "I just couldn't get enough of Shakespeare, I

just kept reading and reading. I didn't even like reading, but his (Shakespeare) plays were

addicting to me."

Extrinsic motivation. Within the study, the eight participants gave examples of how

extrinsic factors such as sports or activities played a major role in academic achievement.

Thomas stated that sports played a significant part of motivating him to do well academically.

Something happened in middle school that changed my life; I started playing football.

Football made me feel really good about myself, because I wasn't that kid who couldn't

read but I was that fast kid who hit hard. Football added structure to my life…Coach said

that I was good enough to play in college, but I needed good grades too. This [getting

good grades] became my new goal.

John had a similar experience with sports motivating his scholastic achievement.

> Basketball gave me that reason to do well in class. Because of basketball, I pushed myself a great deal. I made the all-academic team my senior year in high school. I did good in school so my mom would let me play basketball. Yeah, basketball really motivated, and still motivates me, to do well in school.

Additionally, the idea to "prove others wrong" become a significant motivation for participants to succeed academically. Fifty percent of the interviewed population (Eve, Ester, Ruth, and Thomas) stated that proving others wrong was a chief motivational factor to their academic success. Eve stated, "I want to prove to those teachers who told me I wouldn't amount to anything that they were wrong." Ruth would later share, "I mean look at me know, I'm successful. And I had to be. I had to prove all those stereotypes thrown at me wrong."

Summary of Results

Research of eight high achieving students with dyslexia who all obtained a GPA of 2.5 or higher and have graduated or are within three semesters of earning a bachelor's degree from a university was conducted. The researcher applied a phenomenological qualitative study that utilized semi-structured interviews to capture the lived experiences of the eight participants. Through the research design, the four themes for academic success were: 1) academic skills; 2) child advocacy; 3) self-knowledge; and 4) motivation. Additionally, the eight participants produced examples and lived testimonies, giving the reasons behind their academic development and ultimate success.

Chapter V

Discussion

"If we want to discover the full potential in our humanity, we need to celebrate those heartbreaking strengths and those glorious disabilities we all have. It is our humanity and all the potential within it that makes us beautiful."

- *Aimee Mullins*

Introduction

Research has been conducted on the academic struggles of the dyslexic population for generations (Dyslexia Research Institute, 2015; Kraft et al., 2015; Hulme et al., 2015; Perera et al., 2016; Reid, 2016; Siegel, 2006; Snowling, 2012). Recently, studies have examined the strengths of students with dyslexia such as creativity, analyzation of problem solving, generating alternate alternative solutions, and the ability to foresee consequences (Cancer et al., 2016; Ehardt, 2009; Mourgues et al., 2014; Taylor, 2014). Despite the capability to academically succeed, only 2% of the dyslexic population attend and ultimately graduate from a university (Al-Lamke, 2015; Balfanz et al., 2014; McGill, 2011). The purpose of this study was to investigating the disconnect between struggling students with dyslexia and that of their high achieving counterparts. Furthermore, this study provided insight into the phenomenon of the high-achieving dyslexic student. Indicators used in this study to differentiate high-achieving dyslexics from typical dyslexics include: 1) an earned GPA of 2.5 or greater in university coursework, and 2) three or fewer semesters of coursework left to fulfill degree requirements or recent graduation from a university. This investigation sought to better understand the factors that contribute to the success of students with dyslexia and their ability to transcend academic barriers as they continue the journey into post-secondary education. Additionally, this study

examined the influences of the educational methods, support structures such as family, peer, and school mentorship, and coping strategies that might have impacted the dyslexic learner's academic performance.

An insufficient amount of scholarly literature exists focusing on students with dyslexia that were able to overcome their disabilities and further their education at the university level. A substantial amount of the literature covers the pitfalls and academic challenges experienced by a student with dyslexia. The high-achieving dyslexic student has typically been an oddity within school settings, but with determination and striving for academic success, this is not always the case. Through the interview response themes that consisted of failure, success, hopelessness, and achievement, the researcher was able to provide a detailed account of how students with dyslexia can achieve in educational settings and the steps that were taken to gain this positive academic momentum.

The participants of this study consisted of eight high achieving students with dyslexia. Purposeful sampling was used to create a population of participants that fit the research criteria that outlined a GPA of 2.5 or greater in university course work, and within three semesters of graduation from a university. Through semi-structured interviews, the participants provided rich data derived from their unique experiences. The participant pool consisted of both males and females, along with different ethnic groups, to provide a wide spectrum of lived experiences that could be shared. Through the diverse makeup of participants, a unique story was uncovered that provided significant knowledge regarding to what students with dyslexia contribute their academic success.

Summary of the Results

The purpose of this qualitative phenomenological study was to gain insight into the eight high-achieving students with dyslexia that were on track to graduate or had recently graduated from a university. To guide the research, Bandura's (1977, 1986, 2011, 2012, 2016) social learning theory served as the theoretical framework. Additionally, Bandura's theoretical framework was used to examine the journey of high achieving dyslexics as they transcend the academic barriers set by their learning disability. This investigation was driven by the following research questions:

1. To what do high achieving students with dyslexia attribute to their academic success?

2. How do students with dyslexia perceive the support of family, teachers, and peers toward their academic success?

3. How does the understanding of their learning disability impact the success of students with dyslexia?

4. How do students with dyslexia overcome the academic challenges encountered as a result of their learning disability?

Dyslexia is the most common learning disability, accounting for 15% of the United States student population, yet roughly only 2% of students with dyslexia will graduate from a post-secondary university (Al-Lamki, 2012; MacCullagh et al., 2017; Redpath et al., 2013; Russak & Hellwing, 2015). Students with dyslexia continue to underperform and are not equipped with the correct tools to enhance their abilities and prepare them for higher learning (Alden & Pollock, 2011; Armstrong, 2012; Ball, 2015; Berman et al., 2014; Dyslexia Research Institute, 2015; High et al., 2007; Kiuru et al., 2013; Reid et al., 2013). Researchers have provided significant data that confirms students with dyslexia do not suffer from a low IQ or intelligence, which should

provide a higher academic achievement level than is currently being attained by this population (Fletcher, 2009; Harrar et al., 2014; Kelly & Phillips, 2016; Mills, 2018; Siegel, 2006; Zambo, 2004). The investigation into high achieving students with dyslexia was performed through a qualitative phenomenological research design. Furthermore, this study provides in-depth, lived experiences that detail how teachers, parents, educational institutions, and dyslexics themselves can aid in the development that increases the academic skills of students with dyslexia. The framework within this investigation serves the purpose of providing a pathway toward university success for the dyslexic population.

The eight members of this study were selected from a purposeful sampling strategy, and a snowballing effect was implemented to gather further participation. Each individual interview was transcribed and coded to develop themes. The researcher identified four themes through the coding process. The four themes included: 1) academic skills, 2) child advocacy, 3) self-knowledge, and 4) motivation.

Academic Skills. Discussions with the eight, high-achieving dyslexic participants produced responses that discussed how education systems, accommodations, and coping strategies had positively impacted their learning. These responses were transcribed and coded, which generated themes. Many of the participants conveyed that unique educational systems such as Montessori, private schooling, and specialized education had a significant effect on their ability to learn and master content. Additionally, the participants discussed the importance of tier accommodations throughout their educational journey and the impact that such had on their success. Accommodations that the participants spoke of were the use of tutorial sessions, extra time, and class pullouts. All eight participants indicated that coping strategies were a bridge toward academic success. Coping strategies included the use of audio books, the use of

highlighting, and tracking while reading. Each participant described in detail how academic skills such as educational systems, accommodations, and coping mechanisms played in their ability to academically successful. Scholarly literature provides expert references that academic skills do play a vital role in the academic achievement of students (Berman et al., 2014; Earley, 2013; Hudson et al., 2007; International Dyslexia Association, 2012; Lasley, 2009; MacCullagh et al., 2017; Snowling, 2012; Siegel, 2006).

Child Advocacy. The theme of child advocacy became a major component of the participants' statements throughout the interviews. Within the dialog of the interviews, participants provide a reoccurring theme that parents, siblings, teachers, and a coach or sponsor all provided levels of support. The dialogue of lived experiences provided in the interviews validated the importance of child advocates and how that person directly influences a dyslexic student's ability to succeed. Within the interview transcripts there exists numerous examples and first-hand testimonies that speak volumes to the importance of child advocacy with respect to dyslexic student academic achievement. Research fully supports the participant's voice that child advocacy is an important piece in the educational makeup of successful students (Ball, 2015; Burke et al., 2016; Cortiella, 2009; Fishman & Nickerson, 2015; Reid et al., 2013; Shaywitz & Shaywitz, 2016; Sutton & Shields, 2016).

Self-knowledge. Self-knowledge emerged as a theme within the interviews of the eight, high-achieving dyslexic participants. The theme of self-knowledge consists of the participants knowledge of dyslexia, strengths and weaknesses that the participants possess, and the idea of self-efficacy, which deals with feeling different, setting goals, and the confidence that each participant has in their abilities. The need for self-knowledge and the impact it had on students with dyslexia' academic performance was a constant theme througout the interviews. The

examples provided illustrated how obtaining knowledge of dyslexic characteristics, their strengths and weaknesses, and self-efficacy attributes assisted in their academic development. Research supports the participant's claims on the importance of self-knowledge as a theme for dyslexic success (Carter, et al., 2013; Lau et al., 2015; Pizzolato & Olson, 2016; Showers et al., 2015).

      Motivation. A reoccurring statement within the interview process was how motivation provided the necessary push toward academic achievement. Participants describe both intrinsic and extrinsic factors that aided their desire to scholastically flourish. An individual that has intrinsic motivation is someone who prioritizes achievement through self-satisfaction (Brown et al., 2016; Nevgi & Niemi, 2015; Schunk & Di Benedetto, 2016). Participants that were interviewed had a desire to better themselves and overcome the characteristics of dyslexia. Participants explained the burning desire to academically succeed and the intrinsic motivation they were going to use to reach their self-established goals. Conversely, other participants described extrinsic factors that provided the necessary academic push. Extrinsic factors are the outside influences that drive one's persistence to succeed (Cachia et al., 2016; Mihaela, 2015). Participants discussed that the need for a parent's approval, to prove to nonbelievers that they did have the ability to succeed, and the desire to participate in outside activities like school sports and clubs played an active role in providing extrinsic motivation to succeed. Literature supports the evidence gathered through the qualitative design interview process that both intrinsic traits and extrinsic motivational factors play a fundamental role in the academic development of high achieving students with dyslexia (Brown et al., 2016; Cachia et al., 2016; Mihaela, 2015; Schunk, & DiBenedetto, 2016; Schunk & Zimmerman, 2012; Virtanen et al., 2015).

Research Question # 1: To what do high achieving students with dyslexia attribute to their academic success?

A primary purpose in the investigation was to identify what attributes to students with dyslexia' academic success. The findings of this study provide a connection between academic skills and educational success. The theme of academic success derived from the grouping of categories that emphasized educational systems, accommodations, and coping strategies as major components that lead to academic success. Each participant discussed how the academic skills outlined above provided the tools necessary to overcome their learning disability. Bandura's (1977, 1986, 2011, 2012, 2016) social learning theory provides the foundation upon which this research question was created, and it ultimately offers a reason behind students with dyslexia' abilities to succeed academically. Research enhances the statements made by the participants that accommodations provided a bridge for struggling students to achieve academic success (Baglieri & Knopf, 2004; Ball, 2015; Scottish Rite Learning Center, 2004; Shaywitz & Shaywitz, 2016; Waddington et al., 1996). Participants added that educational systems such as Montessoris and other institutions that teach tactile learning are important. These educational systems provide students with dyslexia with a preferred learning style and comfortable atmosphere in which to enhance their abilities. Each participant spoke at length about how such atmospheres allowed him or her to fully adapt and cultivate their knowledge as a student with special needs. Each participant highlighted various accommodations such as audio books, classroom pullouts, focused tutorial sessions, and additional time on both assignments and tests. The literature establishes concrete evidence that the participants shared lived experiences that accommodations aided in their academic achievements is supported fully (Danielson, 2013; Dieterich et al., 2017; Witmer et al., 2017).

Research Question # 2: How do dyslexic studnets perceive the support of family, teachers, and peers toward their academic success?

The investigation into high achieving students with dyslexia is significant due to each participant demonstrating that success has derived from the structure that their family, teachers, and coaches have provided. Each child advocate was able to assist and help navigate the students through times of despair, struggles. Despite the constant struggles and academic challenges that students with dyslexia endure, they were able to overcome these challenges through the support from the child advocates that were and are present in their lives. In addition, different scholars have noted the positive instrumental role in which students' families play in supporting their academic success. The child advocates added a sense of self-esteem to the participants of the study that provided encouragement toward overcoming the characteristics of dyslexia and allowing academic success to occur. Each parent, sibling, and school employee that assisted the dyslexic learner in this investigation directly influenced each participant's quest in becoming a college graduate. Bandura's (1975, 1987, 1993) social learning framework highlights the need for observation, imitation, and modeling for learning to occur. Each participant within the study has used their advocates not only as a support structure but also as a motivating factor that pushed them to believe learning could occur. The evidence taken from the study dealing with support systems aiding in the development of students with dyslexia is consistent with the scholarly research on the importance of child advocacy in the development of students with learning disabilities (Burke & Hodapp, 2016; Fishman & Nickerson, 2015; Francis & Turnbull, 2015; Reid et al., 2013; Siegel, 2009).

Research Question # 3: How does the understanding of their learning disability impact the success of students with dyslexia?

Participants within this research accredited knowing their disability as an enormous piece of their ability to succeed. The interviewees expressed a sense of "relief" when they were diagnosed with dyslexia. Each of the members of the investigations had the passion to succeed, but were always hampered by academic struggles. Self-knowledge provided the reasoning for these struggles and presented an opportunity for growth. The importance of knowing one's self and capabilities appeared throughout the interview process and became a staple of reasons for academic success. Within the self-knowledge theme, participants discussed traits such as their knowledge of dyslexia, family history of the disorder, their strengths and weaknesses, along with self-efficacy. Each participant interviewed offered lived experiences and dialogue discussing how self-knowledge allowed for academic success. Furthermore, the statement by one of the participants that "you can't fix something, when you don't know what's wrong" illustrated the importance of self-knowledge as it creates a step in the right direction toward impacting academic success.

The knowledge and experience of living with dyslexia was apparent through family cases of the learning disability. Furthermore, seven of the eight participants stated that their dyslexic diagnosis led to a better understanding of themselves, which allowed academic growth to occur. Three of the participants added that having dyslexic parents assisted with facing the disability and overcoming aspects of the disorder.

Bandura's (2016) theoretical framework used in this investigation highlights the importance of self-knowledge as a quality necessary for student success to occur when facing academic barriers such as dyslexia. Each of the eight participants disclosed how self-knowledge

aided in their development as a student with a learning disability and paved the way for success to occur within the classroom.

Scholarly work supports the statements made by each individuals testimony that knowledge of dyslexia, family history of the disorder, their strengths and weaknesses, and self-efficacy play an integral part in academic development for students with disabilities (Ben-Naim et al., 2017; Berninger & Wolf, 2009; Brown et al., 2016; Dragoet al., 2018; Jones et al., 2012; Schunk & DiBenedetto, 2016). The participants' views on how the knowledge of dyslexia, family history of the disorder, their strengths and weaknesses, along with self-efficacy coincides with Bandura's (2016) social learning theoretical framework as means to transcend academic barriers for dyslexic individuals. Research supports the voices of the participants that self-knowledge provides a platform for student success (Berninger & Wolf, 2009; Cachia et al., 2016; Jones et al., 2012; Mihaela, 2015; Palmer et al., 2017; Schunk & DiBenedetto, 2016).

Research Question # 4: How do students with dyslexia overcome the academic challenges encountered as a result of their learning disability?

A chief goal of the investigation into high-achieving dyslexic success was to find reasoning behind the participants' abilities to overcome their disabilities and academically succeed. Dyslexia affects a child's social, emotional, and academic development (Berman & Stetson, 2018; Catts, 2017; Dyslexia Research Institute, 2015; High et al., 2007; Harwell & Jackson, 2008; 2012; Giovagnoli et al., 2016; Reid, 2016; Snowling et al., 1991). This study looked at the academic ability of students with dyslexia and what positively affected their growth. Participants gave first-hand knowledge of what assisted them in their educational journey of overcoming the challenges of dyslexia. Within each interview, the theme of motivation became very prevalent when discussing academic achievement. When discussing

motivational factors that impacted their education, participants described grit, a willingness to succeed, the ability to join activities, and the praise of others. Additionally, participants spoke about how groups, such as sports and organizations, provided a framework in which students were held accountable and had to succeed to belong. Seven out of the eight participants stated that wanting to belong to groups such as sports or organizations provided the necessary motivation to do well in school. The literature supports the participants' views on groups creating a relief from academic pressures and providing a culture in which students need to academically succeed to belong (Clark, 2002; Kirk, 2005; Mascarinas & Blauwet, 2017; Wickman, Nordlund, & Holm, 2016).

Bandura's (2016) theoretical framework places importance on one's own motivation and drive to succeed. The participants displayed many examples for both intrinsic and extrinsic motivational characteristics. According to Bandura (1977, 1982, 2012, & 2016), motivation plays a vital role in the ability to succeed, promoting reasons of both internal and external factors. It was within these motivational factors that participants were able to dig deep within themselves and overcome the most prevalent learning disability in schools today.

Scholarly literature supports the idea that intrinsic and extrinsic factors push students to succeed and allow for students with academic disabilities to fulfill their academic goals (Alexander-Passe, 2016; Kaur & Padmanabhan, 2017; Koifman, 2015; Schunk & DiBenedetto, 2016). Within the interviews, all eight participants provided a willingness to overcome their learning disability. Furthermore, the inner grit, or the purpose to show others their intelligence, provided the necessary motivation to educationally grow and experience academic success. This desire to better themselves is prevalent – not from where each interviewee started, but where they are finishing as university graduates.

Major supporting quotes from the participants. There are ample scholarly reports that focus on dyslexia as a disability and the negative attributes associated with the learning disorder (Glazzard, 2010; Singer, 2008; Smith-Spark, Zięcik, , & Sterling, 2016). Yet, research has witnessed through first hand authentication the learning difference of dyslexia and the true potential of dyslexic individuals. Each participant's interview takes the reader through his or her academic struggles, heartaches, as well as his or her triumphs and accomplishments. Comments derived from the interview such as "I just remember being so confused why everyone else seemed to get it," and "school was such a struggle," to "I'm about 20% knowledge and 80% hard work," and "I can do anything" illustrate the full circle and complete educational journey of each dyslexic participant. Statements extrapolated from the participant's interviews below are examples of this amazing journey. The beginning set of quotes exemplifies the onset of each participant's education. Notice how the tone and description of educational experiences change as the participants are exposed to the highlighted themes of this research.

Thomas: I always knew that no matter what school I was at it was going to be harder for me than everyone else.

Esther: I remember being so frustrated and feeling so helpless that I just couldn't read.

Mary: I felt like an outcast at school. Being pulled out of the class, and I felt like everyone's eyes were always on me. You know, I was just a kid and no one wants to feel different.

Elizabeth: Even when I tried to sound out the words, I just couldn't read. Seeing all my friends reading and having no trouble in school was so frustrating. I just remember thinking that this is just not fair.

John: Back then, you know you're learning a lot for the first time. You just see everyone else get it and then there's you, the one kid in class that just can't get it. I had so much trouble learning.

James: I just had so much anxiety in school. I knew everyone was looking at me when I was the last person to turn work in. That feeling was awful.

Eve: In elementary school one of my teachers told my mom that there was just something wrong with me. I just couldn't learn. I already felt like shit about myself, like I was the worst kid on the planet. How could anyone love someone stupid like me?

Ruth: One of my earliest memories is sitting at the kitchen table with my mom doing flash cards. We would go over and over them again and again until I was virtually in tears. My mom was like I don't understand why you're not getting this.

Thomas: Nobody thought that I could go to college, but here I am. Believe in yourself and good things will happen. Sometimes it takes me two or three times longer than other students, but, you know what, I am a success.

Esther: Now, I think I can do anything. I think everyone has talents and skills that help them along the way. I used to think that I couldn't do certain things but that feeling is long gone.

Mary: My self-motivation and my dedication have allowed me to succeed. I read positive quotes to get my mind right. Everyone told me I couldn't, but here I stand soon to be a college graduate.

Elizabeth: I've accepted who I am and the learning difference that I have. My brain just works differently and that's OK. It was a rough start, but I look where I am now.

John: Being dyslexic is almost like having a super power. I haven't always felt this way, but it has allowed me to think differently you know outside the box.

James: Being in a school that doesn't teach the way you learn is so frustrating and that's part of the problem. I'm not stupid, I just learn differently. Since finding out learning styles that work for me I have taken off. I have been very successful in school and that's a great feeling.

Eve: I think my struggles were important. Being different and learning different isn't the end of the world. I firmly believe that it's my differences that have allowed me to succeed. If there was a magic pill that I could take to make me not dyslexic anymore I wouldn't take it. I'm proud of who I have become and what I have been able to achieve.

Ruth: The more I learn about dyslexia the more I've learned about myself. I've realized that it's the differences that make you who you are. And right know I'm very proud of that person.

Each participant illustrated their rise from learning disabled to high achieving differently, but the common themes of academic skills, child advocacy, self-knowledge, and motivation resonated with each. High-achieving students with dyslexia within the study all concluded that it was because of the above-mentioned themes that they were able to transcend academic barriers and become high-achieving students with dyslexia. Knowledge gained through the insightful experiences of the eight participants provide an opportunity for growth to occur within the dyslexic community.

A Researcher's Reflection

As a researcher who identifies as a high-achieving student with dyslexia, the unique opportunity to investigate a topic that has brought questions throughout his life presented itself.

Through the development of research questions, interviews, and analysis of scholarly literature the researcher gained a better understanding of himself along with the eight participants within his investigation. Through listening to the accounts of struggles, ridicule, and ultimate successes, the researcher formed a new respect for the participants' abilities to overcome a disability with so many roadblocks in their educational journey. Passion, diligence, heart, motivation, and a willingness to succeed resonated in the voices of each participant and provided a phenomenological occurrence that has intrigued the researcher from his own youth and similar experiences. The researcher, now in his forties, grew up being called learning disabled and was secluded to a self-contained classroom. However, the feelings of embarrassment over his disability soon changed through the insightful interviews that were conducted. One amazing reflection that occurred is that many of the participants proclaimed themselves as having a "learning difference," not a disability. The researcher was amazed at the positivity and pride that each individual proclaimed they had as students. The feelings of pride were reciprocal, exemplified by the participant's comments, "you're really doing something amazing" and "way to be a positive example," in reference to my ongoing academic journey and culmination of earning a PhD in education. The researcher likens this investigations as "great self-therapy" through the ability to discuss his own learning difference as the interviews unlocked so many personal memories.

Recommendations for Future Research

The qualitative phenomenological study was an investigation of eight, high-achieving students with dyslexia across the United States. The purpose of this investigation was to examine the lived experiences of high-achieving, post-secondary students with dyslexia who have overcome academic barriers of dyslexia and are on track to graduate from a university.

Additionally, the researcher sought to understand the learning disorder that has plagued his own academic abilities and to highlight indicators that, when applied, lead to dyslexic student success. The words "dyslexic" and "success" or "high achieving" are rarely used in the same sentence. Therefore, an increase of research needs to occur investigating the phenomenon of the high-achieving dyslexic individual. Through future research, a solution for dyslexic academic struggles and low participation at the university level can be achieved. The voices of the eight participants that offered their lived experiences opens the door for educators, parents, and dyslexic individuals to see the true academic potential of students with dyslexia.

Opportunities for future research into high achieving dyslexics:

- Observing the post-secondary, non-university student

- Observing how technology impacted a younger participant

- Replicating the research though parental or guardian expectations of dyslexic success

- Observe the differences between newly graduated dyslexics and that of their parents' generation.

- Study examining post-secondary instructors who were struggling learners.

It was the goal of this research to show dyslexic accomplishment through the culmination of a bachelor's degree, however not all dyslexic individuals who lead successful lives graduated from a university. Paired with the results gained from this study, a holistic view of all high achieving dyslexics, college bound and not, can be obtained. Therefore, there is an opportunity for future research through the observation of high-achieving dyslexic individuals who did not pursue university life. Dyslexic individuals who graduated from post-secondary educational institutions such as community colleges, trade schools, and institutes provide an interesting

population to conduct future research. Many participants were excluded from this study due to their failure to meet the parameters created for this investigation. This opportunity for future research gives this population, the post-secondary educated dyslexic who did not attend a university, the opportunity to share their experiences on how academic achievement was obtained. Part of this recommendation for future research should include dyslexic success rates at these alternate post-secondary educational institutions.

Another recommendation for future research is the observation of a younger participant pool. Within this investigation, technology was discussed but was limited through the age of the participants. The participants within the study age ranges from 21-28 years of age. The youngest participant would have been in first grade in 2003, when technology was just beginning to be implemented in classrooms. Observing students with dyslexia who are currently in high school gives future research the ability to dive into how the implementation of recent technology increases dyslexic learning and achievement. Within the current investigation, dated technology such as audio books, recoded lectures, and type and text features were highlighted as accommodations that aided into dyslexic development. Future research needs to look at the cutting-edge technological advancements that have been implemented by education to assist struggling students. This opportunity for future research, paired with this study, will fulfill a complete generational outlook on the impact that technology has had on the dyslexic population.

This investigation was conducted from an individual that had experienced dyslexia firsthand. An alternate research needs to look at how parents and guardians of dyslexic individuals define success. The researcher created the definition for dyslexic success in this investigation. However, the need to promote a further understanding of how parents and guardians evaluate success is needed. An in-depth evaluation of all school-age children can be

conducted through the experiences of their caregivers that can shed a different light on the same questions asked throughout this investigation.

The need to look at various generations and how they have been impacted by dyslexia is important. Previously, the researcher discussed the importance of conducting research on a younger population to show the impact of technology and dyslexic success. An additional recommendation for future research needs to observe the "older dyslexic" adult and their achievement levels. Within this investigation, the participants shared an education filled with acceptance, inclusion, and fostering dyslexic growth. An important recommendation for future research looks at the older population of dyslexics who were ashamed of their disability, shunned into self-contained classroom, and were not cultivated in fostering situations. What stories would they unveil about their education? What is their percentage of graduating a university? And finally, what methods did this population implement to succeed?

Post-secondary instructors who they themselves were struggling learners provides an interesting avenue for future research. Does the impact of their knowledge of coping skills and ability to overcome barriers facilitate their educational philosophy? This opportunity for future research has the ability to observe the teach facilitator shift that is occurring and how instructors that have struggled within their own academics handle this shift. Within the current research on high achieving dyslexics, the participants explained how their early struggles paved the way for later academic success. Future research on instructors who were struggling learners can observe this same phenomenon. Key research questions that can be answered through this opportunity for future research include: What type of instructions do instructors that were once struggling learners provide to post-secondary students? and How does the role of direct instruction vs. teacher facilitation impact struggling learners?

The investigation has yielded an impressive amount of information on how students with dyslexia were able to academically succeed. Coupled with the suggestion for future research, a better understanding can be gained of the dyslexic population with the purpose of increasing their ability to succeed on various educational platforms.

Implications for Professional Practice

The research gathered on high achieving students with dyslexia in this investigation provide educational systems with opportunities for growth. The eight, high-achieving dyslexic student participants all graduated or are on track to graduate from a university. Research has stated that only 2% of students with dyslexia complete a degreed program at the university level (Al-Lamki, 2012; MacCullagh et al., 2017; Redpath et al., 2013; Russak & Hellwing, 2015). In response to this statistic, the educational system needs to provide students with dyslexia with a better-paved road that leads to academic success and ultimately a university degree. None of the eight participants (0%) identified themselves as high-achieving dyslexics at any time during their primary or secondary education. The progression into post-secondary education was neither smooth nor seamless. Yet, each participant was able to surpass their own expectations and barriers to education on the road to fulfilling their bachelor degree requirements. It is after this accomplishment that each of the eight participants discussed how the traditional education system did not provide the necessary environment to foster dyslexic academic development. Furthermore, the students with dyslexia interviewed discussed the need for educational systems, child advocacy, self-knowledge, and motivation as key components to their success stories. How do schools take the knowledge gained from this study and implement it?

Participants spoke about the need for schools to become more diversified and to abandon the "traditional education model" that, in the words of the participants, "teaches only one type of

student." Research states that educational systems that promote diverse learning experiences benefit learners (Harrar et al., 2014; MacCullagh et al., 2017; Mills, 2018; Moats, 2010). Yet, with this known strategy that affects student learning, classrooms are unwilling to change to promote universal advancement for all students. Schools need to promote, evaluate, and build diverse learning opportunities on campus.

Schools need to provide dyslexic children with advocates that assist in not only the learning process, but also in the emotional aspect of living with a learning disability (Ingesson, 2007; Leitão et al., 2017; Nalavany & Carawan, 2011). It is recommended that there be a deeper investigation into how school employees provide positive relationships with students with dyslexia. As part of this ongoing research, questions that need to be answered are: 1) Who is providing the advocacy efforts for the dyslexic child; 2) How many times a week is this relationship being developed?; and 3) Is this advocacy being tracked, and, if so, for how long? It is within this opportunity for future investigation to occur within the child advocacy development that further advancement can be made within the academic success of the dyslexic population.

The idea that having the knowledge of a diagnosis of dyslexia promoted academic growth was a theme shared through the interviews of this study. Schools need to systematically screen for dyslexia at the earliest age possible. Scholarly literature substantiates that the earlier a child is screened for dyslexia the greater reading ability that child will have (Ball, 2015; Harrar et al., 2014; MacCullagh et al., 2017; Mills, 2018). By creating a test that evaluates children's reading ability in kindergarten, first, and second grade, the ability to catch and diagnose dyslexic children is heightened. The implementation for universal dyslexic tests to occur in early education setting is a necessity.

Examples of motivation providing scenarios of academic success for dyslexic individuals needs to be developed within the school setting. Participants within the study shared that the ability to play sports was a driving motivational factor that pushed them to overcome their dyslexic disability and succeed in school. Educational institutions needs to further implement this strategy of giving the dyslexic student community something to work for. Whether its band, drama, debate, baseball, or football, schools need to provide a motivational "carrot" that presents extrinsic opportunities to succeed. Experts agree that tapping into external factors to motivate students is an area that schools could expand upon (Schunk, & DiBenedetto, 2016).

Implementing areas in which schools can enhance their professional practice and further aid in the development of students with dyslexia is a priority. In addition to fulfilling the suggestions for professional practices, parents need to become and remain advocates thought their child's lives. It's not where one starts, but where they finish. Both schools and parents need to fulfill this saying, and set a path for students with dyslexia and children to become successful.

Connections to Bandura's Theoretical Framework

Bandura's theoretical framework relies on the connectedness of an individual's behavior, cognitive personal factors, and environmental variables to overcome boundaries of learning (Bandura 1977, 1982, 2012, & 2016). The research used Bandura's Social Learning Theory as a framework to drive the investigation into dyslexic student success. Through the semi-structured interview process, the researcher linked the eight participant's ability to become high achieving students within Bandura's framework. Figure 8 depicts the connections in which the themes of the interviews link back to Bandura's Social Learning Theory.

Figure 8

Connections to Bandura's Theoretical Framework
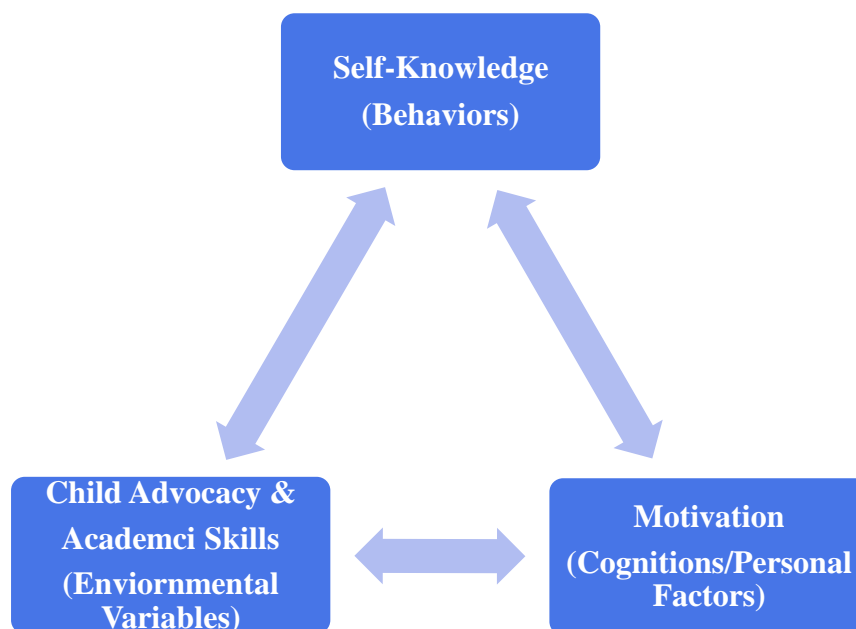
Model of Social Learning Theory by A. Bandura (1977). Permission Granted (Appendix K)

Behaviors. Bandura's Social Learning Theory uses student behavior as a model to facilitate learning (Bandura, 1977, 1982, 2012, & 2016). The eight participants described self-knowledge as an important piece to their ability to become a high achieving student with dyslexia. These behaviors or self-knowledge, drove students success thought their ability to understand their disability as well as recognize their strengths and weaknesses in their academic skillset. Bandura states (1977, 1982, 2012, & 2016) that student behavior allows the learner to observe and search within themselves to overcome academic barriers. Through the research, self-knowledge became a significant link within Bandura's behavioral piece of the Social Learning Theory.

Personal Factors. Cognitive personal factors represent a pivotal piece of Bandura's Social Learning Theory and how it links to academic success (Bandura, 1977, 1982, 2012, &

2016). The eight participants spoke of motivation as a personal factor that drove their ability to succeed within the classroom. . The theme of motivation on students' with dyslexia ability to academically succeed was broken into both intrinsic and extrinsic factors. Bandura's Social Learning Theory uses cognition as an inner personal spark that drives the learning process. Each of the eight participants within the study commented on the importance of motivation as a direct link to their ability to academically succeed. Personal cognitive attributes such as motivation provided the necessary connection toward academic success for students with dyslexia.

Environmental Variables. Albert Bandura's Social Learning Theory places importance on environmental variables in connection with students learning (Bandura, 1977, 1982, 2012, & 2016). The data produced from the semi-structured interviews highlights the importance of both academic skills and child advocacy as environmental factors that aid in students with dyselxia success. Bandura's Social Learning states that environmental factors set in motion the connection between students and their ability to progress their academic abilities (Bandura, 1977, 1982, 2012, & 2016). The theme of academic skills and child advocacy provide the bridge in which the eight participants of the study were able to move from struggling student to one who has become academically high achieving.

Conclusion

Bandura's social learning theoretical framework provides a solid foundation for which the population of high achieving students with dyslexia could be investigated. Academic skills, child advocacy, self-knowledge, and motivational factors emerged as the themes that answered each research questions:

1. To what do high achieving students with dyslexia attribute to their academic success?

2. How do students with dyslexia perceive the support of family, teachers, and peers toward their academic success?

3. How does the understanding of their learning disability impact the success of students with dyslexia?

4. How do students with dyslexia overcome the academic challenges encountered as a result of their learning disability?

Each of the eight participants (100%) attend or have recently graduated from a university in a system in which only 2% of dyslexics are able to achieve. Participants in the study were diagnosed dyslexics and faced educational struggles throughout their education. They were, however, able to transcend barriers of dyslexia and become successful students with a bright future.

Many people associate dyslexic individuals with what they cannot accomplish, but these eight participants paint a new picture of hope for the dyslexic population and provide examples of what students with dyslexia can accomplish. The high achieving dyslexic population was able to accomplish great academic tasks due to their diligence and adherence to the self-prescribed formula for dyslexic success which include the pre-mentioned themes of this investigation. Each of the themes listed blended together to form a solution for academic struggleds that have plagued the dyslexic population for decades. The eight participants' testimonies reiterated the importance of each theme in the development of the high-achieving dyslexic. Participants were eager to share their story of self-doubt, frustration, moments of change, and triumph through their battle with the brain abnormality that plagues so many students' ability to succeed.

As the interviews evolved, the sense of accomplishment and self-worth provided the landscape of what English majors would label a Greek hero – the rise from substandard levels to

a new successful being that is ready to embark on a life-changing quest. The majority of

research has focused on what students with dyslexia cannot do (Critchley, 1968; Orton, 1925;

Pavlidis, 1979). Each participant knew of their academic disabilities, yet strived to erase the

label placed on them by society and to create a new chapter of the dyslexic student, which

exemplifies their abilities. The eight participants in this study have proven the sentiments of "we

can achieve" and "we will push through" in their abilities to academically succeed and establish

a new definition of the dyslexic student.

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Appendix A

Research Proposal Site Access

neuhaus
EDUCATION CENTER

4433 Bissonnet
Bellaire, Texas 77401
neuhaus.org

t 713.664.7676
f 713.664.4744

February 8, 2017

Northwest Nazarene University
Attention: HRRC Committee
Helstrom Business Center 1st Floor
623 S. University Boulevard
Nampa, ID 83686

RE: Research Proposal Site Access for Mr. Christopher Cipolla

Dear HRRC Members:

This letter is to inform the HRRC that as Vice President of Family Engagement
and Adult Literacy at Neuhaus Education Center, I have reviewed the proposed
dissertation research plan including subjects, assessment procedures, proposed
data and collection procedures, data analysis, and purpose of the study. Through
my connections with Neuhaus and as President of the Houston Branch of the
International Dyslexia Association, I disseminated information about Mr.
Cipolla's research. People who met the criteria were invited to contact him to
participate if they were interested. He has permission to conduct his research
study within this voluntary group. The authorization dates for this research study
are August, 2017 – March, 2018.

Respectfully,

Mary H. Yarus, M.Ed
Vice President of Family Engagement and Adult Literacy
Neuhaus Education Center

Appendix B

National Institute of Health (NIH) Certificate

Certificate of Completion

The National Institutes of Health (NIH) Office of Extramural Research certifies that **Chris Cipolla** successfully completed the NIH Web-based training course "Protecting Human Research Participants".

Date of completion: 08/29/2015.

Certification Number: 1826374.

Appendix C

Approval from Northwest Nazarene University's Human Research Review Committee

RE: [Northwest Nazarene University] Protocol #5032017 - "NOT SO BACKWARDS": A PHENOMENOLOGICAL STUDY ON THE LIVED EXPERIENCES OF HIGH ACHIEVING DYSLEXIC STUDENTS   Inbox   x

Northwest Nazarene University hrrc@nnu.edu via email.submittable.com   6:24 PM (47 minutes ago)
to me

Dear Chris,

The IRB has reviewed your protocol: Protocol #5032017 - "NOT SO BACKWARDS": A PHENOMENOLOGICAL STUDY ON THE LIVED EXPERIENCES OF HIGH ACHIEVING DYSLEXIC STUDENTS. You received "Full Approval". Congratulations, you may begin your research. If you have any questions, please contact a member of the IRB committee.

Appendix D:

Qualitative Informed Consent

INFORMED CONSENT FORM

A. PURPOSE AND BACKGROUND

Chris Cipolla, S. Ed., and M.Ed., a doctoral student in Educational Leadership at Northwest Nazarene University is conducting a research study related to the challenges and strengths of high achieving students with dyslexia and their ability to transcend academic boundaries toward their quest in achieving admittance to university studies. The use of metaphor of *Not So Backwards* will guide the study. I hope to discover "common" elements that makes high achieving dyslexics succeed despite facing difficulty circumstance during their educational journey. You are being asked to participate in this study because you are a healthy volunteer, over the age of 18 who meets the qualifications of the study.

B. PROCEDURES

If you agree to be in the study, the following will occur:

1. You will be asked to sign an Informed Consent Form, volunteering to participate in the study.

2. You will answer a set of interview questions and engaged in a discussion with the investigator. This discussion will be audio taped for accuracy purposes, and is expected to last approximately 60 minutes. Your response(s) will help to provide and give encouragement to other students with dyslexia who might be facing the same academic problems that you have during your schooling.

Appendix D:

Qualitative Informed Consent (continued)

3. There are several questions prepared for this study. I may also ask additional questions for clarification such as, "can you expand on that issue?' or "how did it make you feel?' If you are uncomfortable with any questions I ask, please let me know immediately and I will move to the next question. You may choose to end the interview at any time.

4. You will be asked to reply to an email at the conclusion of the study asking you to confirm the data that was gathered during the research process.

These procedures will be completed at campus in one of the private study rooms in the library or at a location mutually decided upon by the participant and principal investigator and will take a total of about 60 minutes.

C. RISKS/DISCOMFORTS

1. Some of the discussion questions may make you uncomfortable or upset, but you are free to decline to answer any questions you do not wish to answer or to stop participation at any time.

2. For this research project, the researchers are requesting information on student disabilities. The researchers will make every effort to protect your confidentiality. However, if you are uncomfortable answering any of these questions, you may leave them blank.

Appendix D:

Qualitative Informed Consent (continued)

3. Confidentiality: Participation in research may involve a loss of privacy; however, your records will be handled as confidentially as possible. No individual identities will be used in any reports or publications that may result from this study. All data from notes, audio tapes, and disks will be kept in a locked file cabinet in the Department and the key to the cabinet will be kept in a separate location. In compliance with the Federal wide Assurance Code, data from this study will be kept for three years, after which all data from the study will be destroyed (45 CFR 46.117).

4. Only the primary researcher and the research supervisor will be privy to data from this study. As researchers, both parties are bound to keep data as secure and confidential as possible.

D. BENEFITS

There will be no direct benefit to you from participating in this study. However, the information you provide may help educators and other minority students to better understand what it takes for students with dyslexia to become academically successful and peruse university studies.

E. PAYMENTS

There are no payments for participating in this study.

F. QUESTIONS

If you have questions or concerns about participating in this study, you should first talk with the researcher. Chris Cipolla can be contacted via email at ccipolla@nnu.edu, via telephone at 281-639-6270. If for some reason you do not wish to do this, you may contact Dr. Bethani Studebaker, Doctoral Committee Chair at Northwest Nazarene University, via email at

bstudebaker@nnu.edu, via telephone at 208-467-8802, or by writing: 623 university Drive,

Nampa, Idaho, 83686.

G. CONSENT

You will be given a copy of this consent form to keep.

PARTICIPATION IN RESEARCH IS VOLUNTARY. You are free to decline to be in this study, or to withdraw from it at any point. Your decision as to whether or not to participate in this study will have no influence on your present or future status as a student at your College.

I give my consent to participate in this study:

Signature of Study Participant Date

I give my consent for the interview and discussion to be audio taped in this study:

_____ _____

Signature of Study Participant Date

I give my consent for direct quotes to be used in this study:

_____ _____

Signature of Study Participant Date

_____ _____

Signature of Person Obtaining Consent Date

THE NORTHWEST NAZARENE UNIVERSITY HUMAN RESEARCH REVIEW COMMITTE HAS REVIEWED THIS PROJECT FOR THE PROTECTION OF HUMAN PARTICIPANTS IN RESEARCH.

Appendix E: Verbatim Instructions

Hi_____

Thank you for your willingness to participate in this study.

Semi-Structured, Audio-Recorded Interviews

A semi-structured, audio-recorded interview will be conducted with each participant. These procedures will be conducted face-to-face in a public setting (local coffee house, library or other public setting) and the investigator and will take a total of about 45-60 minutes.

I would like to conduct the interviews between the months of August and December, 2017. This process is completely voluntary and you can select to suspend your involvement at any time.

You can select to answer questions that are of comfort to you and not obligated to answer all of the questions. Please, find the attached interview questions.

If you any questions, please do not hesitate to call me or contact me via email. I look forward to our interview and learning about the academic challenges you have overcome and your journey into university life.

Thank you for your participation.

Chris Cipolla

Doctoral Student

Northwest Nazarene University

ccipolla@nnu.edu

281-639-6270

Appendix F:

Email Recruitment

Dear Participant

My name is Chris Cipolla and I am a doctoral student from Northwest Nazarene University. I am conducting a research study for my dissertation titled "Not so Backwards": A Phenomenological Study on the Lived Experiences of High Achieving Secondary Students with Dyslexia. The purpose of this email is to solicit your support and participation. The study will allow me to share fundamental knowledge about your accomplishment and the lived experiences that contributed to your success. The study will capture the voices of eight high achieving dyslexic student's who overcame barriers toward achieving enrolment into a university. A high achieving dyslexic as it pertains to this study is a dyslexic student that possesses a rank in the top quartile of their class, a G.P.A. of at least 2.5. I would like to interview you as it relates to the challenges that you encountered in your educational journey and how you manage to persist. Participation in the interviews will take approximately 45-60 minutes. Findings of the study will be shared with you upon completion of the study. Your participation in this research is voluntary. If you decide to participate in the study, you may withdraw your consent and stop participation at any time without penalty.

The information from the interviews will be audio recorded, but will remain completely anonymous and your answered will not connect to you in any way. The data will be analyzed by me (Chris Cipolla). There will be no direct compensation for your time. Your input is extremely valuable and your participation would be greatly appreciated.

By participating in this study, there are no known risks. It is not possible to identify all potential risks in research procedures, but the researcher has taken reasonable safeguards to minimize any known and potential, but unknown, risks.

To participate in the research, please respond to the email at ccipolla@nnu.edu and provide the best available time for the interview. Thank you for your consideration.

Sincerely,

Chris Cipolla

Doctoral Student

Northwest Nazarene University

ccipolla@nnu.edu

281-639-6270

Appendix G:

Confidentiality Agreement

I, _____ the researcher, agree to maintain full confidentiality in

regards to any and all audiotapes and documentations received related to the study titled **"NOT**

SO BACKWARDS": A PHENOMENOLOGICAL STUDY ON THE LIVED

EXPERIENCES OF HIGH ACHIEVING SECONDARY STUDENTS WITH DYSLEXIA

Furthermore, I agree:

1. To hold in strictest confidence the identification of any individual that may be inadvertently

revealed during the transcription of audio-taped interviews, or in any associated documents.

2. To not make copies of any audiotapes or computerized titles of the transcribed interviews texts.

3. To store all study-related audiotapes and materials in a safe, secure location as long as they are in

my possession.

4. To delete all electronic files containing study-related documents from my computer hard drive and

any back-up devices.

5. I am aware that I can be held legally responsible for any breach of this confidentiality agreement,

and for any harm incurred by individuals if I disclose identifiable information contained in the

audiotapes and/or files to which I will have access.

Transcriber's name (printed) _____ Date _____

Transcriber's signature _____

Appendix H:

Interview Questions

1	What high school did you go to?
2	What was your GPA at your high school?
3	What was your favorite class in high school?
4	What score did you receive on the SAT or ACT?
5	What university are you attending?
6	What degree major are you planning of did you obtain?
7	Why did you decide to attend this university?
8	What do you look forward to most or did you like most about your university?
9	Did you register your dyslexic disability with the universities disabilities department?
10	At what age do you remember dyslexia impacting your education?
11	What seemed to be your toughest struggle in dealing with dyslexia?
12	Do you have any relatives that are also dyslexic?
13	If so, have they been able to succeed? In your estimation why have or haven't they been able to succeed?
14	Was there any school employee that helped you combat the effects of dyslexia?
15	What was there title/position?
16	At any time during your education, was there a teacher who did not treat your dyslexic disorder appropriately? If yes, please explain
17	Briefly describe your home life and parent situation.
18	Did your parent's take an active role in your education? Is yes please elaborate on.
19	Was there any point in your schooling that you felt defeated? If so describe this situation.
20	At what point did you realize you learned differently?
21	What strategies and coping methods have you adopted to aid in your academic success?
22	What are your greatest strengths?

23	Can you identify any role models or someone who just encouraged you throughout your educational journey?
24	Do you believe that the persona people have about dyslexic's have influence your self-image or academic capabilities in any way? If yes, please explain.
25	What advice would you give students with dyslexia who are struggling and have yet to achieve academic success?
26	What are you studying in college?

Appendix I:
Member Checking Email

Date

Dear_____

Thank you for your participation in the study this past semester. We wanted to let you know

some of the themes that resulted from the interviews of all participants (see below). Please let us

know if these accurately depicted our conversation. If you have any suggestion or modifications,

please let us know as well.

[outline themes]

Thank you again for your help and we look forward to hearing from you.

Chris Cipolla

Doctoral Student

Northwest Nazarene University

ccipolla@nnu.edu

Telephone: (281)639-6270

Appendix J

Permission to Use Non-Dyslexic Brain vs. Dyslexic Brain When Reading Image

Chris Cipolla <ccipolla@nnu.edu>   Feb 21 (4 days ago)
to shawn, Bethani

I am writing my dissertation on high achieving dyslexic students and their ability to transcend academic barriers. I have permission from Dr. Studebaker and the Northwest Nazarene review board to conduct interviews of participants that fall into this population. I would like to use a figure that you have created Non-impaired Brain/Dyslexic Brain images to provide validity to my research. I want to ask permission to use this figure within my research. Below is a copy of the figure that I would like to use.

NON-DYSLEXIC BRAIN vs. DYSLEXIC BRAIN WHEN READING
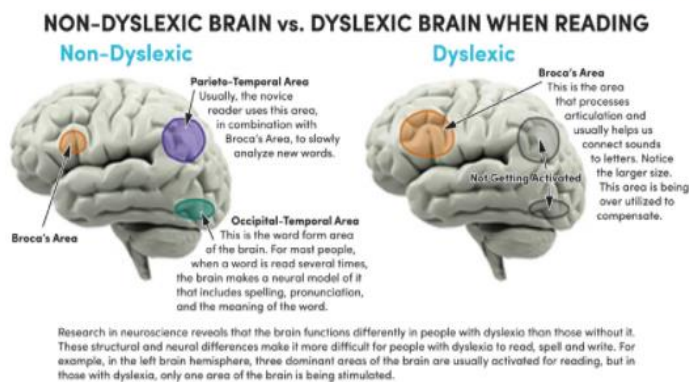
shawn@seetospell.com   Feb 21 (4 days ago)
to me

Hi Chris,

I give you permission to use the image below. I have also attached the image I told you about.

Good luck with your project!

Shawn Denise Cunningham
www.seetospell.com
(602) 920-2853

From: Chris Cipolla [mailto:ccipolla@nnu.edu]
Sent: Wednesday, February 21, 2018 10:58 AM
To: shawn@seetospell.com
Cc: Bethani Studebaker <bstudebaker@nnu.edu>
Subject: permission

Appendix K

Permission to Use Bandura's Social Learning Theory Image

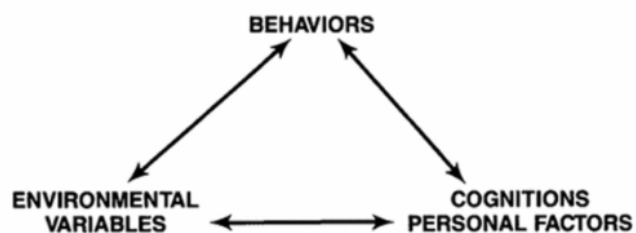**Chris Cipolla** <ccipolla@nnu.edu>   Jan 22 ☆
to albertob, bcc: Bethani ▾

Dr. Bandura,

I am writing my dissertation on high achieving dyslexic students and their ability to transcend academic barriers. I am using your social learning theory as a theoretical framework to provide the necessary structure for my research. I would like to use a figure that you have created I would like to ask permission to use the figure below within my research.

Thank you

Best regards
Chris Cipolla PhD Candidate

Albert Bandura <bandura@stanford.edu>   Feb 2 ☆
to me ▾

permission granted, AB

Appendix L

Permission to Use Dyslexia Difficulties Mindmap Image

Teach With — copy, edit and provide the licensed material to those students you teach in any medium or format for the purpose of educating them and/or their private study.

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