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A Social Constructionist Inquiry Study on the Lived Experiences of Educators with Dyslexia Overcoming Workplace Barriers and Increasing Their Capacity for Success

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A social constructionist inquiry study on the lived experiences of educators with dyslexia overcoming workplace barriers and increasing their capacity for success

A Dissertation by

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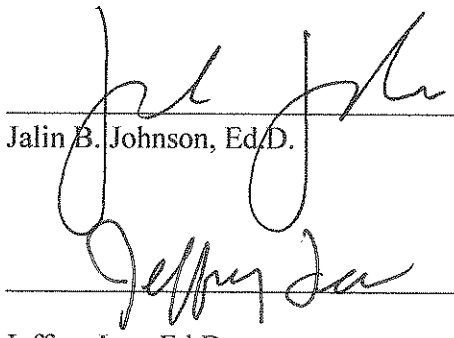

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ABSTRACT

A social constructionist inquiry study on the lived experiences of educators with dyslexia overcoming workplace barriers and increasing their capacity for success.

by Kathryn R. Taylor

The purpose of this qualitative research is to journey the lives of educators with dyslexia growing up as K-12 students, working in the K-12 educational environment, and the means by which those educators overcome workplace barriers as analyzed by three guidelines under the Universal Design for Learning (UDL) principle, multiple means of engagement. The qualitative study was designed from a constructive inquiry perspective. This method allowed the researcher to construct reality by interpreting a group of educators' perceptions based on their experiences and social dynamics living with dyslexia. The primary data was collected from one-on-one interviews guided by scripted questions. A supplementary gathering of data from observations and artifacts functioned as patches to fill gaps and further support data generated from the interviews. Based on the findings K-12 educators with dyslexia experience the following workplace barriers: reading challenges, writing challenges, speaking challenges, and social-emotional challenges. Another essential finding was the challenges K-12 educators with dyslexia face in the workplace are the same challenges they faced as a K-12 student. Additionally, the data showed an alignment between ways educators with dyslexia overcome workplace barriers and the principle of engagement guidelines: recruiting interest, sustaining effort & persistence, and self-regulation. A final finding revealed that educators with dyslexia focus and use their strengths to stay motivated, endure, and self-monitor despite their challenges. The strengths-based approach underpins the three

guidelines of multiple means of engagement. This approach focuses on strengths rather than weaknesses to enhance an individual's motivation, increase hope, and improve self-esteem in the midst of challenges. Based on the results of this study, it is recommended that educational stakeholders include the UDL framework and a strengths-based approach to the instructional program designed to comply with the new dyslexia laws and to meet the academic and social-emotional needs of K-12 students with dyslexia.

TABLE OF CONTENTS

LIST OF TABLES

CHAPTER I: INTRODUCTION

"Dyslexics are life-long learners. We often share an insatiable curiosity and commitment to figuring out the world around us…we see the world from a unique perspective."~ Liz Ball, Teacher with dyslexia

Over the past decade, research has shown that "reading disabilities affect approximately 15% to 20% of the total population or over 60 million individuals in the United States (International Dyslexia Association, 2012; Shaywitz, 2003). Most recently, researchers such as Richardson (2016) expose dyslexia as a disability that impacts the success of an estimated 8.5 million school children and one in six American adults in some form or another. More than ever before, viable data is needed to determine effective solutions to educate the whole child and decrease the domino effect of reading failure that follows through adulthood, as described by Shaywitz (2003). There appears to be a growing interest in understanding the phenomenon of successful adults living with dyslexia and ways they overcome barriers associated with dyslexia. The use of multiple strategies and interventions to limit social-emotional and learning barriers is vital (Burden & Burdett, 2005; Mather & Wendling, 2012).

On the heels of the 40th anniversary for the Individuals with Disabilities Education Act (IDEA) becoming law, new legislation has passed in the state of California with an endeavor to step into a new era of educational practices for pupils with dyslexia. Assembly Bill (AB) 1369 (2015) requires the development of program guidelines to be used by educational stakeholders for "identifying, assessing, planning, providing and improving educational services for pupils with dyslexia" by the 2017-2018 fiscal school year (AB 1369 Dyslexia, 2015). There continues to be a great debate on ways to address the needs of young and adult students with dyslexia. A look at the various ways educators living with dyslexia overcome workplace challenges and cultivate success working in the field of education can contribute valuable insight to the body of

knowledge. So, the journey continues with a step towards designing educational practices, programs, and services aligned with special education law. The goal is to provide universal access for all learners from the onset, to break down barriers, and increase academic success (Hall, Cohen, Vue, & Ganley, 2015; Meyer, Rose, & Gordon, 2014).

Universal Design for Learning (UDL) has been used for over a decade to address the varied needs of all students in the classroom. The three principles of UDL are multiple means of engagement, representation, action and expression. These principles are based on neuroscience research and used to frame the concept that designing educational services with all learning types in mind can ultimately increase the success of all learners (Meyer et al., 2014; Hall et al., 2015). In addition, the recent shift to Common Core State Standards encourages the use of UDL to increase access to content, improve literacy, and provide an experience of success for students with and without disabilities (CAST, 2015; National Center for Universal Design for Learning website, 2012). Therefore, the researcher seeks to investigate ways educators with dyslexia use the UDL principle, multiple means of engagement, as a means to overcome identified barriers they face and gain understanding through a strengths-based theoretical lens on how they increase their capacity for success.

Background

The context of this inquiry study includes various components relevant to the journey of educators with dyslexia. The background will provide an overview of dyslexia, childhood and adulthood barriers of dyslexia, and the use of UDL as a framework to explore ways educators with dyslexia have overcome workplace challenges. Just as a map contains directions for important landmarks that surround the desired location on a journey, so will the background for

this study lay out information that sets up the study to identify ways individuals working in the educational field overcome the barriers of dyslexia.

Understanding Dyslexia

Dyslexia is a disorder that is recognized by some as a term for individuals with reading disabilities (Mather & Wendling, 2012, p. 3). The recent phenomenon of improving the life quality of those with dyslexia has led to the enactment of laws and change in educational practices. Mather and Wendling (2012) explains the term dyslexia has "fallen in and out of popularity from the early 1930s" (p. 3). The effect of the disorder not being recognized as one of the thirteen categorical disabilities identified by the Individuals with Disabilities Education Act (IDEA) fosters a lack of awareness of what dyslexia is. In the same way, Shaywitz (1996) explains the term dyslexia as a disorder that fades in and out of popularity and elaborates on the history of dyslexia beginning over one hundred years ago with a description of the learning disorder (p. 1).

Definition of dyslexia.

One of the first steps necessary to develop program guidelines mandated by AB 1369 (2015) is to solidify the definition of dyslexia. The early studies done by Samuel T. Orton, M.D., a neuropathologist, and psychiatrist, has significantly influenced the extensive body of knowledge available on dyslexia to date. The term "dyslexia" derives from two Greek words dys- ("impaired") and lexis ("word") (Mather & Wendling, 2012, p. 3). Dyslexia is commonly described as a common and persistent "neurobiological disorder" that impairs the development of basic reading and spelling skills (International Dyslexia Association, 2012; Mather & Wendling, 2012; Nuttall & Nuttall, 2013; Shaywitz, 1996; Shaywitz, 2003). Children with dyslexia struggle with learning to read and eventually reading to learn. Shaywitz (1996) and her

colleagues at the Yale Center for the Study of Learning and Attention, has worked over two decades on defining dyslexia and developing a "coherent model that has emerged into a definition that features phonological processing as the foundation of the disorder" (p. 3).

Childhood dyslexia.

Researchers have discovered that nearly one-third of children who are reading below their age, ability, or grade level are not receiving specialized school services to support their reading difficulty (Shaywitz, 2003). The cause of this phenomenon is mostly due to what Shaywitz (2003), Mather and Wendling (2012) attribute to "undiagnosed dyslexia." Children with reading difficulties also may have qualified, as an individual with a specific learning disability (SLD) due to a psychological processing deficit, to receive specialized academic instruction through special education. A dyslexic individual's phonological processing disorder is not always accompanied by a psychological processing disorder (Mather & Wendling, 2012).

Dr. Sally E. Shaywitz is one of the forerunners of research on developmental dyslexia. In a 2002 study, Shaywitz et al. examined brain activation patterns in dyslexic and nonimpaired children and adults while they engaged in pseudoword and real-world reading tasks (Shaywitz et al., 2002). The study concluded with findings showing there was "an underlying disruption in the neural systems for reading in both children and adults with dyslexia" (p.107). Hence, an individual impacted by dyslexia has inefficient neuron activity in the Parieto-temporal and Occipito-temporal parts of the brain which impact the ability to engage in phonological processing. The negative impact adversely affects the capacity to read fluently and accurately (Shaywitz et al., 2002; Shaywitz, 2003).

James and Linda Nuttall (2013) simply explain dyslexia as a "lifelong condition that affects the ability to read, write, learn foreign languages, and remember phone numbers and

names" (p. 87). Consequently, children with dyslexia become adults living with the challenges of the reading disorder. Other researchers agree with Shaywitz et al. (2002) that neuron activation can significantly improve reading and learning for dyslexics. Program guidelines inclusive of strategies that increase neuron activity are essential for improving educational services for students with dyslexia. Additionally, those "guidelines should include" educational services that "promote self-awareness and self-advocacy skills" for all stakeholders (Grossi & Cole, 2013, p. 11). An individual "cannot cure or outgrow dyslexia." but once aware of their disorder, "one can learn to read with specialized reading activities and programs" (Nuttall & Nuttall, 2013, p. 87). It is important to identify and increase the awareness of dyslexia to eliminate the barriers of misconceptions and address the needs of the individual with learning and social-emotional needs.

Adulthood dyslexia.

Some individuals with dyslexia often fail to gain academic and social skills leading them to experience failure as adults (Scott & Scherman, 1992). Although people with dyslexia may have average or above average intelligence, consistent experiences of failure and self-doubt leads to low self-esteem and expectations (Scott & Scherman, 1992, Morgan & Klein, 2000). Dyslexia is a common, and tenacious, specific learning disability which means a person will always be dyslexic. Adults with dyslexia have learned to compensate for their disability, but it is a practice that occurs throughout a lifetime. However, there are numerous accounts of successful adults diagnosed with dyslexia and other forms of learning disabilities. Despite the fact that researchers acknowledge low self-esteem as a common barrier to having dyslexia, many students graduate from high school, college, and go on to work in important fields (Burden & Burdett, 2005).

Barriers of dyslexia.

One of the greatest obstacles preventing a dyslexic child from realizing his potential and following his dreams is the "widespread ignorance about the true nature of dyslexia" (Shaywitz, 2003, p. 89). Mather and Wendling (2012) suggest that the varying definitions of dyslexia may be the contributing factor to some of the misconceptions about the disorder (p. 14). Even though dyslexia is not an emotional disorder, Mather and Wendling (2012) expounds on the social and emotional difficulties that serve as barriers for dyslexic individuals. When a child suffers from reading failure but has the intelligence in other areas, misconceptions often arise.

Likewise, due to difficulties with diagnosis in adulthood, the percentage of adults living with dyslexia is more than those formally diagnosed with the reading and language disorder (Landerl & Moll, 2010; Shaywitz & Shaywitz, 2005). The misconceptions that arise for children with dyslexia exist for adults as well. There are assumptions that a person that is capable of graduating from high school, college, and obtaining a job can read and communicate with fluidity. The dyslexic-type difficulties experienced by adults are typically related to "communicational difficulties and weaknesses in reading and writing" (Leinonen et al., 2001; Leather, Hogh, Seiss, & Everatt, 2011). Wherein, the mistaken belief about a dyslexic individual's capacity is customary because of the lack of awareness of the disorder.

Researchers agree that reading problems can not outgrow the individual because dyslexia is a lifelong condition that impacts the life of dyslexic children and adults (Shaywitz, 2003; Mather & Wendling, 2012; Burden & Burdett, 2005). Challenges that accompany the developmental disorder range from mild to severe on a continuum similar to the severity of the disorder. As demonstrated in the Connecticut Longitudinal Study "at least three out of four

children who read poorly in third grade continue to have reading problems in high school and beyond (Shaywitz et al. 2002; Shaywitz, 2003).

Special Education Law.

It is important to know where one has been to see where one could dare to go. Federal legislation has been the vehicle driving fair and equal rights for individuals with disabilities. There is a pattern shown in improved services and educational progress for persons with disabilities after legislation is passed and implemented. Special education law has cleared the path for procedures and policies focused on the success of individuals with exceptional needs.

Assembly Bill 1369.

On October 8, 2015, the Governor of California approved Assembly Bill (AB) 1369, which is legislation to assist school districts in identifying and providing services for children with dyslexia (AB 1369 Dyslexia, 2015). The bill added Educational code 56334 which includes "phonological processing disorder" as a description of psychological processes deficits, and mandates that students struggling to read and suspected to have a reading disability are identified and assessed for dyslexia. In the past, those who had reading deficits were evaluated with psychological measures that did not include phonological processing. Those students had to qualify as a student with Specific Learning Disability (SLD) to be eligible for specialized services (International Dyslexia Association, 2012; Shaywitz, 1996). Before, students that did not have a significant discrepancy between their ability and performance but struggled greatly due to a reading disability fell through the cracks and continued to experience failure as adults (Shaywitz, 2003). California's new law is one step of many towards an increase in access to "improved educational services" for individuals with dyslexia and a decrease in barriers (Hill & Newman, 2015).

Universal Design for Learning (UDL)

UDL is described by The Higher Education Opportunity Act (Reauthorized in 2008) as a scientifically valid framework that guides educational practices to be flexible, reduce barriers to instruction, and provide appropriate accommodations while maintaining high achievement expectations for all learners with and without disabilities.

In the mid-1970's, Ron Mace of North Carolina State University coined the term Universal Design as a response to a US federal mandate requiring that physical access is provided to individuals with disabilities (Meyer et al., 2014; CAST, 2015). The theory of Universal Design initially was applied to the design of products and buildings that can be accessible to a variety of users. There is evidence-based research to support the theory of applying principles of Universal Design to a learning environment. The idea is to create an educational program from the onset consisting of equity, access, and inclusion for all learners (Hall et al., 2015; King-Sears, 2014; Meyer et al., 2014; CAST, 2015)

The Science of UDL

Contemporary advances in neuroscience give a different understanding of the intricate working of the brain as a networking system (Meyer et al., 2014, p. 9). Although the brain is one vast network, it delegates processing to different areas which are described by Meyer et al. (2014) as "subnetworks." Anatomists differentiate three types of neurons that carry information in and out of the central nervous system stimulating muscles into action (Meyer et al., 2014, p. 55). Similarly, the stimulus conducted by the science-based principles of UDL occurs in the subnetworks identified by Meyer et al. (2014) are located in the back area of the brain that Shaywitz (2003) studied. For instance, the parieto-temporal and occiptio-temporal are the areas that Shaywitz (2003) describes in several studies of dyslexic brains as having a misconnection

between thousands of neurons "carrying the phonologic messages necessary for language" and the "resonating networks that make skilled reading possible." CAST (2015) contains a wealth of citations on research showing UDL as a neuroscience-based framework that is effective in stimulating the individual subnetworks of the brain to maximize the success of individuals that read, communicate, and learn differently.

The Three Principles of UDL

The Center for Applied Special Technology (CAST) began to research, develop, and communicate the principles and practices of UDL in the early 1990s (p. 3). UDL principles provide depth and focus on access to all aspects of learning for a broad range of learners (CAST, 2011). There are three primary principles "based on neuroscience research" that has guidelines serving as a lens for pedagogical undertones leading to increasing success for learners (King-Sears, 2014; Meyer et al., 2014; "Center for Applied Special Technology," 2011, p. 4). There has been a substantial amount of changes in the theory and practice of UDL. Meyers, Rose, and Gordon (2014) explain the UDL framework that consists of three core principles, nine guidelines expanded each principle, and multiple checkpoints that are research-based strategies "applied in classrooms around the world" (p. 7).

Principle of multiple means of representation.

CAST (2011) describes principle one, multiple means of representation, as the "what of learning." Learners' comprehension and perceptions of information presented and taught often differ. Hence, principle one has guidelines that lay out ways content can be presented to increase all learners' ability to make connections within and between concepts (p. 5). Multiple means of representation embody guidelines that provide options for comprehension, language, mathematical expressions, symbols, and perception (National Center for Universal Design for

Learning website, 2012). Alternatives for visual and auditory information and illustrations through multiple media are examples of this UDL principle. An individual with dyslexia may benefit from a how-to video rather than from written directions on putting together a piece of furniture. The how–to video is a visual means that increases the success of putting together the furniture and overcoming the barrier that comes with reading the instructions.

Principle of multiple means of action and expression.

Principle two is the "how of learning" that addresses the different ways learners "navigate a learning environment and express what they know" (Center for Applied Special Technology, 2011, p. 5). Providing individuals various ways to express their learning is empowering for the individual and optimizes opportunities for success. Action and expression is a principle that provides options for executive functions, expression, communication and physical action (National Center for Universal Design for Learning website, 2012). In essence, this principle fosters multiple ways or access to various tools to increase a person's ability to construct and compose emails, research papers, resumes, speeches, and projects with minimal spelling or communication errors. Using a spell and grammar check program to assist with writing an error-free memo or districtwide email is a way a working adult with dyslexia would overcome the challenge that comes with spelling.

Principle of multiple means of engagement.

Finally, principle three serves as the "why of learning" (Center for Applied Special Technology, 2011, p. 5). The guidelines for this principle are crucial because they provide ways to engage and motivate learners that differ. Multiple means of engagement promote options for self-regulation, sustaining effort, persistence, and recruiting interest. Examples of those guidelines include various outlets for self-assessment, reflection, and personal coping skills,

working collaboratively in groups or individually, knowing the relevance, value, or goal optimizes motivation and engagement. This principle is designed to increase an individual's intrinsic motivation, self-determination, and perseverance. The three guidelines for the Multiple Means of Engagement principle listed below, serve as a contextual lens in search of ways educators tackle workplace challenges that manifest due to their dyslexia.

- Recruiting Interest
- Sustaining Effort & Persistence
- Self-Regulation

UDL Principles and Educational Services

According to AB 1369 (2015), educational services includes a multisensory approach which should be used to instruct pupils with dyslexia (AB 1369 Dyslexia, 2015). The principles of UDL can be utilized by teachers to incorporate an inclusion model as part of the "educational services" described by the new law, for students with dyslexia. Burden and Burdett (2005) presents their study concluding that an "environment where excellence and high achievement represents the expected norms" will help to avoid "learned helplessness," "depression," and promote "self-efficacy and locus of control" (p. 103). UDL is a framework designed to make steps towards success for all learners in as well as out of the classroom, including those with dyslexia.

The UDL principles are science-based guidelines that focus on generating neuron activity in specific subnetworks of the brain through multiple means of engagement, representation, expression and action approach (CAST, 2001 Meyer et al., 2014). The multiple means approach stimulates the same part of the brain in which Shaywitz (2003) reveals lacks neuron activity in those with dyslexia. It appears there is minute literature exploring the use of UDL principles by

adults with dyslexia. The neuroscience connection between UDL and dyslexia cultivates a relationship that warrants further investigation.

Statement of the Research Problem

Dyslexia is a neurobiological deficiency that impairs the reading ability in children and adults (Shaywitz et al. 2002). There are individuals with dyslexia that have gone a lifetime without a framework to triumph over their reading deficits. The condition is a phenomenon experienced around the world, and the challenges of dyslexia are experienced by many. Lawmakers in California recognize that the lack of awareness, identification, and educational services for individuals with dyslexia is a problem in K-12 schools.

Despite the existing special education laws that have evolved since 1973, failure rates for those with learning disabilities due to a reading and language disorder have increased. Statistical data indicates that many individuals are suffering from reading deficiencies in school, work, and social settings (Shaywitz et al., 2002; Mather & Wendling, 2012; Shaywitz, 2003). As a result, a new state law was recently adopted requiring school districts to comply with program guidelines to develop a systematic process for identifying, assessing, and educating students with dyslexia in the least restrictive environment consisting of multisensory strategies.

Meanwhile, educational stakeholders continue to draw upon current research to influence decisions and practices within the organization (Burden & Burdett, 2005). The topic of dyslexia has been lavishly studied to understand and explore the disorder and the perceptions of non-dyslexic individuals and their ability to service students with dyslexia (Beattie, Jordan, & Algozzine, 2006; Choate, 2000). In contrast, there seem to be limited studies revealing ways individuals live with dyslexia and the multiple ways they overcome those obstacles and increase their capacity to work successfully in an educational setting.

Horton (2015) recently studied "dyslexic identities in adults" and through a narrative framework told the story of how individuals with a "hidden disability" such as dyslexia, identify themselves in a society that deems the condition of dyslexia as an abnormality. This study was fascinating but did not gain a deep understanding of how those experiences manifested in their workplace. Similarly, Ella Burns' (2015) thesis was a narrative inquiry on the experiences of teachers with dyslexia working tertiary education in Finland and England. The study was conducted with a narrow lens and purposed to "offer a valuable contribution to supporting the professional development of teachers with learning disabilities" (Burns, 2015).

Additionally, there is research on educational services for students with dyslexia in countries other than the United States. For example, Nugent (2007) conducted a mixed method study on the perceptions of parents on inclusive versus segregated settings for their children with dyslexia in Ireland. There is also research on how educators implement UDL as an instructional practice for adults with a specific learning disability in postsecondary education as evidenced by Scott, McGuire, and Shaw's (2003) literary work. CAST (2015) highlights studies that reveal positive results of the UDL model for young and older students with different learning abilities in the classroom. It appears the literature is interested in identifying multiple tools to increase the success of individuals living with dyslexia. However, no studies have explored the lived experiences of individuals with dyslexia working in the educational sector. Educators with dyslexia are included in the group of people coping with barriers due to reading deficiencies. An investigation of ways educators with dyslexia increase their capacity and successfully work in education would provide great insight to the body of knowledge.

A broad review and analysis of the research literature indicate a current trend of UDL and the ongoing trend in research on the awareness of dyslexia. Nevertheless, it appears there is

minimal research on the exploration of how the principles of UDL compare to the ways individuals living with dyslexia overcome barriers they face daily (CAST, 2015, Hall, Meyer, and Rose, 2012; Shaywtiz, 2003, Mather & Wendling, 2012). There are various studies on evidence-based programs that fall under the category of computer assisted instruction for reading, assistive technology to increase access to literacy, and differentiated instruction as instructional practices for students with reading disabilities (Gregory, & Chapman, 2007; Nuttall & Nuttall, 2013; Rose & Meyer; 2002). Nevertheless, there is little to no literature expounding on the use of neuroscience-based practices like UDL to combat the social-emotional barriers linked to dyslexia, for students or educators with dyslexia leaving a gap in the research.

In sum, it is necessary to explore how educators experiencing workplace barriers of dyslexia utilize multiple means of resources to generate positive outcomes. The movement in research suggests a need for exploring how adults naturally implement different ways to limit barriers experienced daily. Contemporary researchers such as Horton (2015) recommend further research on identifying strategies used to overcome the challenges of dyslexia. A study on this topic would be an addition to the literary works available for educational practitioners, parents, and lawmakers to draw on.

Purpose Statement

The purpose of this qualitative study was to explore the lived experiences of educators with dyslexia, identify barriers experienced as a K-12 student and the means by which they overcome workplace barriers encountered working in K-12 schools as analyzed by three guidelines under the UDL principle, “multiple means of engagement.”

Research Questions

1. What are the lived experiences of educators with dyslexia as a K-12 student?
2. What are the barriers encountered by educators with dyslexia working in K-12 schools?
3. How do educators with dyslexia overcome workplace barriers as analyzed by principle guidelines of UDL in the areas of recruiting interest, sustaining effort & persistence, and self-regulation?

Significance of the Problem

There is an epidemic of reading failure experienced by millions of people. The National Assessment of Educational Progress (NAEP) 2015 reading report for the state of California reveals that the state's fourth and eighth graders in public schools are reading lower than the national average (National Assessment of Educational Progress [NAEP], 2015). Although California provides educational services to more students in public schools than any other state in the U.S. (Hall et al., 2012, p. 138), single focus instructional support has become difficult with the increasingly diverse learners in the classroom. For instance, the lack of concentration on students with dyslexia in California and their reading failures is what Mather and Wendling (2012) believes to be a contributing factor to "many short- and long-term emotional and social issues" in children.

This revelation is particularly the case when they lack the "clear understanding of why reading is so difficult*"* (p. 257). The barriers that impact children with dyslexia follow them into adulthood. The U.S. Department of Education released a report from the National Center for Education Statistics (2015) revealing "eleven percent of undergraduates in 2007-2008 and 2011-2012 reported having a learning disability" (National Center for Education Statistics, 2015).

While this is the case, it is crucial to meet the needs of students early on in their K-12 experience to increase the chance of success post high school (Gossi & Cole, 2013).

Therefore, a thoughtful look into how adults with dyslexia working in the educational realm increase their capacity for achievement can be a valuable addition to the research field. Shapiro and Rich (1999) explain that adults with dyslexia represent a diverse group with varying personal and professional goals. Additional authors expound on the characteristics observed in adults with dyslexia, the successes as well the challenges they face as a result of going through life with reading and language difficulties (Shapiro & Rich, 1999, p. 51-52; Gossi & Cole, 2013). There is limited research focused on the journey of individuals with reading disorders striving to reach their goal of becoming an educator responsible for teaching others how to read.

The significance of this study will be to explore with a strengths-based approach perspective, ways adult dyslexics working in the field of education triumph using three guidelines under the UDL principle, multiple means of engagement, to overcome workplace barriers. Moreover, an investigation of ways educators with dyslexia increase their success capacity within a teaching and learning environment can add to the body of knowledge. Additionally, this research can inform policy, educational practices, and program development for all learners with dyslexia.

Definitions

***Dyslexia*:** For the purpose of this study, dyslexia is a specific learning disability that is neurobiological in origin and ranges in severity characterized by difficulties with accurate and fluent word recognition, and by poor spelling and decoding skills typically resulting from a deficit in the phonological component of language.

Educator: For the purpose of this study, the educator is defined as an adult that has experience working as a teacher, administrator, school psychologist, or counselor.

K-12: For the purpose of this study, K-12 is defined as elementary, middle school, and high school grade levels in the educational system. K-12 may be used to describe a type of student, educator, or educational organization in this study

***Multisensory*:** For the purpose of this study, Multisensory is an approach relating to or involving several physiological senses used as an instructional tool.

***Neurobiological*:** For the purpose of this study, Neurobiological is defined as a branch of the life sciences that deals with the anatomy, physiology, and pathology of the nervous system.

Specific Learning Disability: For the purpose of this study, a Specific Learning Disorder, or delayed development is in one or more of the processes of speech, language, reading, Writing, Math, or other school subjects.

Workplace: For the purpose of this study, the workplace is a place of employment with specified expectations and responsibilities to receive wages.

Delimitations

This mixed methods study is delimited to adults with dyslexia between the ages of thirty and sixty-five years old who have experience working in an educator capacity within Los Angeles County under the supervision of the Antelope Valley Special Education Local Planning Agency (SELPA).

Organization of the Study

The explorative qualitative study on the lived experiences of educators with dyslexia was organized and presented in five chapters. Chapter one began the journey with an introduction and background of the study, research questions, purpose, and scope of the study. Chapter two

presents an in-depth review of literature related to the matters addressed in the study. Chapter three describes the research methodology, design, and methods used to gather data and procedures utilized in the study. Presented in Chapter four is an analysis of the data. The journey ends with chapter five in a discussion and recommendations for practice and further considerations.

CHAPTER II: REVIEW OF THE LITERATURE

"Dyslexia should be embraced and turned into an opportunity…If you have love for your unique learning style and can be honest and open about it, people will embrace you and help you." ~Steve Mariotti, Teacher & Entrepreneur with dyslexia

Overview

This study focused on exploring the lived experiences of educators with dyslexia. Chapter I began the journey with the background, purpose, significance, and research questions for this study. The goal of this chapter is to present a review of literature that serves as a synopsis of relevant literature directly related to the variables of the study. First, the literature review builds an awareness of the history and definition of dyslexia, challenges and strengths for dyslexic learners, obstacles that come against adults with dyslexia, and ways individuals with dyslexia overcome and thrive. Next, this chapter reveals the impact of special education law on the success of individuals with dyslexia as well as the effectiveness of Universal Design for Learning (UDL) as a framework to increase the accessibility to lifelong success for dyslexics. Finally, a synthesis of the literature discloses the significance of educators with dyslexia, the means by which they overcome challenges in the workplace, and the understanding of the strengths-based approach as a theoretical lens to situate the study.

The Journey of Dyslexia

Dyslexia is a term that was used initially in 1887 by a German ophthalmologist named Rudolf Berlin (Elliot & Grigorenko, 2014). Shortly before this development, Kussmaul (1877) reported a case with an adult patient of high intelligence that had severe reading difficulties with no other disabilities or challenges. As a result, the phrase "Word Blindness" was used by Kussmaul to describe the condition observed in many other patients after that (Goswami, 2008; Elliot & Grigorenko, 2014; Shaywitz, 2003). Years later, Berlin studied two types of cases. One

which he considered to be “acquired dyslexia,” the kind that is the effect of physical trauma and the other being “developmental dyslexia” which develops naturally from a young age (Mather & Wendling, 2012; Elliot & Grigorenko, 2014). Prominent researchers to date, such as Shaywitz (1996) focus their study on developmental dyslexia.

The dyslexia journey has been at the center of perplexity for Congress, the National Institute of Child Health and Human Development (NICHD), and the Department of Education for almost thirty years. Shaywitz (2003) describes the chain reaction after the U.S. Congress received a report from the comprehensive investigation conducted in 1987 to better understand and find an effective treatment for the reading disability. A call for “the establishment of such centers” to study in depth developmental dyslexia enticed many, but through “a rigorous review process, three such centers were chosen” (Shaywitz, 2003, p. 25). Yale University was one of the three universities selected. The prominent university is where a husband and wife team, Bennett and Sally Shaywitz, directed a team at the center to advance their current study of causation of dyslexia. As a result, the infamous “Connecticut Longitudinal Study that began 1983-1984 was given momentum and has contributed a substantial amount of information to the body of knowledge surrounding dyslexia” (Shaywitz, 2003, p. 27).

Understanding Dyslexia

Nobel Prize winners Godfrey N. Hounsfield and Allan M. Cormack were honored and awarded in 1979 for their “groundbreaking discovery” of the computed tomography (CT), “which is a computerized series of X-rays that build a three-dimensional image of the brain” (Shaywitz, 2003, p. 68-69). Researchers and neuroscientists agree that using CT and, later, the magnetic resonance imaging (MRI) solely offered pictures with information about the structure of the brain and not about the function of the brain (Shaywitz, 2003 and Goswami, 2008). Later

the “positron emission tomography (PET)” was created, but proved to be an invasive means for studying the brain due to the radioactive materials needed to perform. Finally, the “functional magnetic resonance imaging (fMRI) provides a noninvasive solution for neuroscientists to visualize a brain at work and is now the most commonly used method to study the brain (Camp & Aldridge, 2004; Shaywitz, 2003; Goswami, 2008).

Earlier research that suggests dyslexia is “the result of damage or improper development of language regions in fetal life,” led researchers such as Shaywitz et al. (2002) to focus on the neuroscientific theory for dyslexia. Many studies have explored the function of the dyslexic brain. The team at The Yale Center for Dyslexia & Creativity are well noted for their ongoing study and research comparing the non-dyslexic brain to the dyslexic brain while engaged in reading passages (Shaywitz, 2003 and Goswami, 2008). The fMRI technology captures an image when blood flow to areas of the brain occurs while the subject is completing the given task. In turn, the image enables the researchers to measure the amount of activity on both sides of the brain for both dyslexics and non-dyslexics.

On the contrary, in the late 1970s, to make sense of dyslexia, Drake Duane organized a “brain bank” consisting of dyslexic and non-dyslexic brains of the deceased. The brain bank sponsored by the Orton Dyslexia Society made available to scientists for examination and study (Shaywitz, 2003, p. 68). Research on the phenomenon of dyslexia has evolved through distinct periods of time from the late 1800s and now adding the body of research in this new millennium. The journey begins from single-case studies of individuals with “word blindness” and later recognized as developmental dyslexia by a few committed practicing physicians all the way to entire research teams with experts in various related fields dedicated to the understanding of the complex neurological factors that contribute to multiple reading irregularities. Although the

body of research has grown exponentially, there continues to be a debate on different aspects on the study of dyslexia.

Dyslexia debate.

The ongoing debate relating to the nature of dyslexia is widely discussed in literature today. Much of the literature credits Samuel T. Orton, M.D for the relatively broad body of knowledge existing mostly due to his early research (Wadlington & Wadlington, 2005; International Dyslexia Association, 2012). With articles published as early as 1925, Orton proposed that "reading disabilities" in children is, in fact, developmental dyslexia (Camp & Aldridge, 2004). Contrary to some neuroscientists and researchers, Orton concluded that the reading disability is a result of "poor cerebral dominance in which the non-dominant hemisphere stored a different representation to that of the dominant one" (Elliot & Grigorenko, 2014, p. 3). Although his international nonprofit organization, the Orton Dyslexia Society, continues to thrive and help children with dyslexia to date, there are contrasting opinions to Orton's conclusions.

Orton differs from Rudolf Berlin's (1887) theory of brain lesions as the cause of "acquired dyslexia" and James Hinshelwood's (1917) conclusion that a defect in the angular gyrus part of the brain is the contributing factor to this "hereditary, but remediable" condition. Likewise, other researchers contradict Orton's ideas (Elliot & Grigorenko, 2014; Camp & Aldridge, 2004; Shaywitz et al., 2002, and Mather & Wendling, 2012). As recent as 2009, Graham Stringer, a British Member of Parliament, questioned the validity and concept of dyslexia altogether, suggesting there is no such condition, but rather a made up term to cover for a failed educational system (Elliot & Grigorenko, 2014). Despite the continued variance in opinions, the literature supports the notion that at the very least, an agreed-on definition of

dyslexia is vital to developing appropriate means for diagnosis. For instance, the best treatment or intervention can be useful blueprints for professional development and dyslexia awareness (Elliot & Grigorenko, 2014; Mather & Wendling, 2012; and Wadlington & Wadlington, 2005).

Definition of dyslexia.

Many literary works highlight the fact that there is no universally accepted definition of dyslexia leading to continued dissension in other areas like origin and interventions (Goswami, 2008; Elliot & Grigorenko, 2014; Mather & Wendling, 2012; and Wadlington & Wadlington, 2005). Misuse of the label 'dyslexia' in practice is a consequence of an ongoing gap between the use of the term 'dyslexia' and the understanding of the defining features (Reid, 2005). It appears the literature definitions concur that dyslexia is a disability which impacts a person's reading and language.

However, reliable sources differ in describing the specific characteristics of dyslexia that impact learning. The list in Table 1 below illustrates the inconsistent consensus regarding a clear and useful definition of dyslexia. The sources of each explanation range from lawmakers (IDEA, 2004) to experts in the medical field (National Institute of Neurological Disorders and Stroke). Elliot & Grigorenko (2014) suggest the value of a definition may be "tempered by its purpose" (p. 6). For instance, if the definition is designed to serve a scientific purpose, then there will be strict scientific language embedded in the definition. Likewise, an educational definition may include language that results in the requirement of educational resources. There is a common language in each definition, yet the manifestation of dyslexia is described differently in just about all of the defined meanings of dyslexia below.

Table 1

Dyslexia Definitions

Notable Source	Definition
Individuals with Disabilities Education Improvement Act (IDEA) 2004	"A disorder in one or more of the psychological process involved in understanding or using language, spoken, or written, which may manifest itself in an imperfect ability to listen, think, speak, read, write, spell, or do mathematical calculations. This term includes such conditions as perceptual disabilities, brain injury, minimal brain dysfunction, dyslexia, and developmental aphasia." (20 U.S.C. Sec. 1410 [30]).
International Dyslexia Association (IDA) & the National Institute of Child Health and Human Development (NICHD)	"Dyslexia is a specific learning disability that is neurobiological in origin. It is characterized by difficulty with accurate and fluent word recognition and by poor spelling and decoding abilities. These difficulties typically result from a deficit in the phonological component of language that is often unexpected about other cognitive abilities and the provision of effective classroom instruction. Secondary consequences may include problems in reading comprehension and reduced reading experience that can impede the growth of vocabulary and background knowledge."
National Institute of Neurological Disorders and Stroke	"Dyslexia is a brain-based type of learning disability that specifically impairs a person's ability to read. These individuals typically read at levels significantly lower than expected despite having normal intelligence. Although the disorder varies from person to person, common characteristics among people with dyslexia are difficulty with spelling, phonological processing, and rapid visual-verbal responding. In adults, dyslexia usually occurs after a brain injury or in the context of dementia. It can also be inherited in some families, and recent studies have identified a number of genes that may predispose an individual to developing dyslexia."
British Dyslexia Association	"Dyslexia is a specific learning difficulty that mainly affects the development of literacy and language related skills. It Is likely to be present at birth and to be lifelong in its effects. It is characterized by difficulties and phonological processing, rapid naming, working memory, processing speed, and the automatic development of skills that may not match up to an individual's other cognitive abilities."

Adopted by Mather & Wendling (2012), www.understood.org http://dyslexiaida.org/, and IDEA (2004)

The U.S. Department of Education defines an “individual with disabilities” as any person who “has an impairment which substantially limits one or more major life activities” ("Civil rights of students with hidden disabilities," 1995, p. 2). The impairments are either physical or mental and can be categorized as either mild to moderate or moderate to severe. When referring to those covered under Section 504, it is important to include those with “hidden disabilities” which are those “impairments that are not readily apparent to others” (Civil rights of students with hidden disabilities," 1995, p. 2). Specific learning disabilities fall under the “hidden disabilities” umbrella and make up 43% of the “hidden disabilities enrolled in public elementary and secondary schools in the United States” (Civil rights of students with hidden disabilities, 1995, p. 2). IDEA (2004) pinpoints eight areas of eligibility for students identified with a specific learning disability: basic reading skills, reading fluency, reading comprehension, math calculations skill, math problem-solving, written expression, oral expression, and listening comprehension. Basic reading skills and reading fluency along with secondary difficulty in reading comprehension and written expression are possible areas of eligibility for a student with dyslexia (Mather & Wendling, 2012 and Flanagan & Alfonso, 2011).

Specific learning disabilities (SLD).

On this journey, it is important to understand the difference between a specific learning disability (SLD) and dyslexia. The broad nature of an SLD is much like the county and dyslexia is the specific zip code of the place to which we are traveling. The California State Board of Education’s annual performance report (2016) revealed that out of the thirteen disability categories, the majority of students are identified as having a "Specific Learning Disability” as their primary disability (p. 5). The annual performance report (2016) also exposed the fact that only 284,196 out of 717,961 students identified as having an SLD and received special education

services during the 2014-2015 fiscal school year (California State Board of Education [CDE], 2016, p. 6).

The definition of specific learning disabilities provided by the Individuals with Disabilities Education Act (2004) is commonly used. The law defines SLD as a "disorder in one or more of the basic psychological processes which manifest itself in the "imperfect ability to listen, think, speak, read, spell, or do mathematical calculations" and includes conditions such as dyslexia (Individuals with Disabilities Education Act (IDEA), 1990/2004). Definitions of learning disabilities (LD) journey back between the mid to late 1800s and are prevalent in fields such as neurology, psychology, and education (Flanagan & Alfonso, 2011). Despite the varied approaches to etiology, definition, and treatment of SLDs, there is a common characteristic of such disabilities in children which are the capacity for learning and the discrepancy with their actual level of functioning in the classroom.

Childhood Dyslexia

There is a consistent body of evidence that show children between the ages of four and six become aware of the phonological structure of spoken words (Shaywitz, 1996). By the age of six, most children have experienced at least one full year of schooling, including reading instruction. Research shows that 20 percent of schoolchildren are affected by dyslexia (Shaywitz, 1996 and Mather & Wendling, 2012). For instance, some prominent studies by Isabelle Y. Liberman of Haskins Laboratories, Lynette Bryant and Peter E. Bryant of the University of Oxford, and Shaywitz et al. of the Yale University Connecticut Longitudinal study contributed to the theory that a preschooler's phonological aptitude predicts future skill at reading. Not all children experiencing difficulty reading have dyslexia. A professional diagnosis is key to determining appropriate causation for reading difficulty in children (Burden

& Burdett, 2005 and Shaywitz, 2003). A multitude of characteristics in the areas of reading, writing, spelling, and speaking are typical of dyslexia and fundamental in determining whether a child has dyslexia or not.

Characteristics of childhood dyslexia.

Identifying the characteristics of dyslexia leads to a greater understanding of the experiences of those who live with the disorder. There is significant research on the features of developmental dyslexia. Shaywitz (2003) divulges that "specific signs of dyslexia, both weaknesses, and strengths, in any one individual will vary according to the age and educational level of that person" (p. 121). Numerous studies corroborate with the findings of Shaywitz building rich data on the challenges and strengths observed in individuals with dyslexia. The degrees of difficulty children experience will vary, as will overall patterns of strengths and weakness that a child demonstrates (Mather & Wendling, 2012). This study focused on the lived experiences of educators growing up with dyslexia as K-12 students. Reviewing the literature on the characteristics of childhood dyslexia is essential.

Reading challenges. Reading challenges that are typical for a younger child in kindergarten and first grade with dyslexia consist of the inability to learn to associate letters with sounds, reading errors show no connection to the sound of the letters, and the inability to read common one-syllable words. According to Shaywitz (2003), as the K-12 student gets older, some of the characteristics consist of struggling to read new words, stumbling on reading multi-syllable words, omitting parts of words when reading and oral reading is laborious, choppy reading that lacks inflection as well as fluidity. Reading letters in the wrong order (felt for left, act for cat, and reserve for reverse) is also a common attribute typical for dyslexics (Shaywitz, 2003, p. 124 and Mather & Wendling, 2012).

Reading strengths. Subsequently, signs of strengths involve the higher-level thinking processes including excellent conceptualization, reasoning, and imagination. Meaningful learning is more effective than rote memorization. High level of understanding of what is read aloud to the individual, sophisticated listening vocabulary, and excellent skill set in more conceptual versus fact-driven subjects (Shaywitz, 2003).

Writing challenges. Writing challenges for dyslexics are unique in that dyslexics may struggle with written expression, but not due to the lack of thought and ideas. The oral expression can be a strength, but the effort to write with appropriate use of syntax, grammar, and legible handwriting is tough. Another challenge noted by researchers is a dyslexic's struggle with the acquisition of proofreading skills. The significant difficulty in learning and applying phonological awareness is a contributing factor to a child's struggle with misspelling words (Mather & Wendling, 2012). Displaying spelling errors when transposition occurs and continually misspelling sight words are other ways characteristics of dyslexia manifest itself in learning and application.

Writing strengths. Shaywitz et al. (2002) describe the observation of children with dyslexia exhibiting creativity and imagination while interacting in storytelling. Abstract-reasoning, problem-solving, and creative thinking are valuable attributes found in many dyslexics. Conceptual thinking and creatively paired with assistive devices to support spelling and grammar barriers increase success in writing for children with dyslexia (Mather & Wendling, 2012).

Speaking challenges. Mather & Wendling (2012) concurs with Shaywitz (2003) that the speaking difficulties experienced by dyslexics are mostly overlooked. "It is on the tip of my tongue" is a common idiom used to express that there is a loss of words. Children with dyslexia

often need more time to summon an oral response because their speech is not fluent due to the pausing or often hesitating when speaking. The challenges include lots of mispronunciations of long and unfamiliar words by leaving out parts or confusing the order of the parts of words-"for example, aluminum becomes amulium" (Shaywitz, 2002, p.123). The trait most prevalent is difficulty "remembering isolated pieces of verbal information (rote memory)" such as names, dates, and telephone numbers.

Speaking strengths. Children with dyslexia will often accumulate large vocabulary words once they have applied conceptual knowledge and typically will not forget and will use the word in the correct context. Kaderavek (2009) discusses the dyslexic child's enthusiasm to present orally on a topic of interest with the opportunity to prepare ahead of time. Mather and Wendling (2012) supports that view and states that children with dyslexia often have strong verbal skills and a good memorization skill which often supports their ability to present an oral presentation (p. 241).

Social Emotional. Considering the child's lived experiences with reading, writing, and speaking challenges, it is well-known that those challenges create a social-emotional barrier that impacts their academic progress as equally as the reading difficulties. As a result, many children may experience negative feelings for an extended period leaving them susceptible to clinical depression (Understood: for learning and attention issues, 2014; Mather & Wendling, 2012; Shaywitz, 2003; and Bjorklund, 2011). Research supports the notion that early identification and intervention limits social-emotional barriers in children. However, there are still many states without laws mandating early screening, identification and supports.

Researchers agree on the occurrence of parents and teachers believing the child chooses to lack the effort in reading, which can lead to the student feeling inadequate because their effort

does not amount to success in reading (Shaywitz, 2003; Mather & Wendling, 2012). Morgan and Klein (2000) researched and found that children with dyslexia experience a continuum of responses at school including "feelings of difference, inferiority, loneliness, and isolation" which follows them through post-secondary schooling. The lack of awareness and intervention of the disability become a blockage for individuals throughout their adulthood. Shapiro and Rich (1999) refers to an abundance of research that validates ideology that the younger the child, the more "plastic the brain and early intervention increase the chance for the child to overcome many barriers before they reach adulthood" (p. 26).

Adulthood Dyslexia

The majority of research has concentrated on children with dyslexia. Within the past decade, there have been studies on adulthood dyslexia. Recent literature suggests dyslexic adults can succeed and embark on a broad range of occupations. In the same way, several studies highlight adults who have dyslexia and attain comparable occupational and educational levels to that of the general population (Shapiro & Rich, 1999). Nevertheless, the United States Department of Labor reports that people with disabilities have a higher unemployment rate by five percent. Although society expects adults to be self-sufficient, function within the community, and contribute to the economy, not all individuals with a disability is afforded that opportunity.

Characteristics of adulthood dyslexia.

Working adults with dyslexia face a set of challenges that are unique to each occupation. Recent studies focus on challenges adults with dyslexia experience due to difficulties in processing disorders that impact word recognition, spelling, areas of reading, and writing. Living with these constant struggles increase stress and anxiety which impacts the individual's

social, emotional state of being (Gerber et al., 2001). Similarly, Moody (2006) identifies five areas of professional responsibility that are impacted by the challenges of dyslexia. Organization, reading and understanding, writing, speaking and listening, and social-emotional are areas where elements of dyslexia, both weaknesses and strengths, in any one individual will differ according to the age and educational level of that person (Shaywitz, 2003).

Organization. Moody (2006) states that organization is a fundamental skill in the workplace. The ability to file and create designated workspace where materials are easily located, and accessible is not a strength for individuals with dyslexia (p. 54). The challenges that consistently arise can be addressed with careful thought, planning, and a step-by-step action list to support an individual that struggles with spatial and memory deficits.

Reading and understanding. Phonological processing refers to the "ability to receive, transform, remember, and retrieve the sounds of oral language" (Shapiro & Rich, 1999). Studies disclose dyslexia as a phonological processing disorder. The disorder manifests itself in ways such as accurate word reading requiring a great effort, lack of reading fluency resulting in avoidance to reading in public, fatigue from a slow reading of work materials, and substitution of made-up words for words that cannot be pronounced during oral reading (Shaywitz, 2003). Misunderstanding of written directions from emails, memos, or proposals are challenges that come with working as an adult with dyslexia.

Writing. Writing is a complex form of communication and is a crucial skill for most jobs. The writing challenges experienced in childhood may improve with practice and direct instruction, but the extended time and effort needed to complete a writing task remain the same into adulthood. Shapiro and Rich (1999) conveys the major impact of a spelling deficit for a professional with dyslexia in the workplace. Shaywitz (2003) concurs and explains findings

from the study reveal adults with dyslexia struggle with written communication due to their "disastrous spelling and preference for less complicated (simple) words in writing that are easier to spell" (p. 126). Nevertheless, adults with dyslexia can communicate with excellence in writing if the spelling is important. Studies also review that adults with dyslexia display a talent for high-level conceptualization and the ability to "think out of the box" with "big picture thinking" (Nosek, 1997 and Shaywitz, 2003).

Social-emotional. There are many literary works in the form of autobiographies and biographies of famous adults with dyslexia with testimonies of experience growing up as a dyslexic and their ability to overcome. There is a remarkable resilience and ability to adapt observed in individuals that have overcome challenges. An increase in their capacity for success despite their challenges is valuable (Moody, 2006; Nosek, 1997; Shaywitz, 2003). At the same time, there are equal amounts of studies and research on the negative impact dyslexia has had on the lives of children, youth, and adults. Due to lived experiences of unswerving failure, negative judgment, lack of diagnosis and awareness, fear of public humiliation, and feelings of isolation and hopelessness, those with dyslexia can have a lowered self-esteem. The spirit of defeatism and pain is not always visible to others (Shaywitz, 1996; Shaywitz, 2003; Mather & Wendling, 2012; Nosek, 1997; Shapiro & Rich, 1999, and Moody, 2006).

The Importance of Understanding Dyslexia

Understanding dyslexia is realizing with a "new perspective" that there are "two sides" or types of dyslexia characteristics. There are strengths and challenges to living with the disorder and Gladwell (2013) speaks of two ways successful adults triumph. The author makes a distinction between "capitalization learning" and "compensation learning." Capitalization learning is when one masters something by "building on the strengths that we naturally are

given" (p. 112). Whereas, compensation learning is a more difficult process and requires a more intense level of engagement. Compensation learning is confronting one's limits, by "overcoming your insecurities and humiliation." Next, the individual must focus on a successful model, practice observation with sustaining effort, and take on that strength to meet the goal (Gladwell, 2013, p. 113).

Overcoming Barriers of Dyslexia

Shaywitz (2003) shares that most parents and teachers prolong evaluation for a child with reading difficulties in hopes that the problems are just temporary. Dyslexia is a permanent condition that can hinder the educational progress of a child and ultimately the success of an adult. Barriers associated with dyslexia can be limited and less impactful with increased awareness of those obstacles and multiple ways to overcome them (James and Linda Nuttall, 2013). As seen in Table 2, there are common barriers that emerge from dyslexia as presented in literary works for both children and adults with dyslexia.

Table 2

Barriers of Dyslexia

Areas of difficulty	Second through Twelfth Grade	Young Adults & Adults
Speaking	• Mispronunciation of long and unfamiliar words • Nonfluent speech (pausing and hesitating often) • Difficulty finding the right words and needing more time for verbal response • Difficulty remembering isolated pieces of verbal information such as names, phone numbers, and list	• Persistence of earlier oral language difficulties • Difficulty remembering names of people and places and confusion of names that sound alike • A struggle to retrieve words: "It was on the tip of my tongue."

Areas of difficulty	Second through Twelfth Grade	Young Adults & Adults
Reading	• Slow progress in acquiring reading skills • Trouble reading unfamiliar and new words • Inability to read small "function" words like: as that, and, in • Omitting parts of words when reading due to a failure to decode parts within a word • Disastrous spelling, with words not mirroring true spelling • Trouble reading mathematic word problems • Poor performance on multiple choice tests	• Word reading becomes more accurate over time but continues to require considerable effort • Lack of fluency • Trouble reading and pronouncing uncommon, strange, or unique words • Slow reading materials such as books, manuals, subtitles in movies • Poor performance on rote clerical tasks • Spelling that remains disastrous seeming unprofessional or incompetent
Social Emotional	• High performance coupled with unexplained low performance in reading and spelling can cause frustration • Individual with dyslexia may feel different, inferior, lonely and isolated due to the embarrassment from difficulties in reading and spelling • Common feelings emerge for those with dyslexia in an inclusive setting: anxiety, anger, depression, or lack of self-esteem.	• Fear of failing exams in higher education • Embarrassment when corrected by others • Anxiety when speaking in group settings or sending emails • Feeling of inferiority due to other people's perceptions • Low self-esteem • Defeatists attitude towards new endeavors

Adopted From Shaywitz, 2003; Shaywitz et al., 2002; Mather & Wendling; 2012; Burden & Burdett, 2005

Unsuccessful Outcomes with Dyslexia

According to the *National Center for Learning Disabilities Report (2012)* out of 221,000 students with SLD, only 68 percent graduated with a regular high school diploma, and 19 percent dropped out of high school (Cartiella, 2013). Equally important, the Bureau of Labor Statistics

(2012) reveal that 12 percent of those with less than a high school diploma are unemployed. Kirk and Reid (2001) presents the findings from their study of 50 prisoners that were administered a full assessment in which 25 out of the 50 were shown to have "discrepant scores in processing speed and short-term memory compared to verbal comprehension and verbal expression." Additionally, the findings identified 16 of them as "borderline dyslexic" and nine as "strongly dyslexic" (p .83). The findings, which were commensurate with similar studies, show self-esteem, was low in all the participating prisoners that were found to have indicators of dyslexia (p. 84). A similar study in the prisons in Uppsala, Sweden, yielded similar results with 39 of the 61 participating prisoners that were found to have dyslexia expressed living through poor educational experiences. Participants reported that they were made to feel stupid, and rather than looking like a failure, changed their self-image to rowdy and challenging of authority (Alm & Andersson, 1997).

There may be a debate on the definition, causation, and even interventions for dyslexia, but researchers agree that the experience of failure, adverse interactions due to the deficits exhibited in school, lack of interventions and supports negatively impacts an individual's ability to sustain maximum effort towards success. Inevitably, social-emotional journey of the child with dyslexia can lead to lowered self-esteem. Low self-esteem is highly attributed to the reason students with learning disabilities drop out of high school, add to the statistical snowball of unemployed, and even find themselves engaging in criminal activity and incarcerated (Cartiella, 2013; Gerber et al., 2001; Nosek, 1997; and Alm & Andersson, 1997).

Successful Outcomes with Dyslexia

Recently, theorists in the field of dyslexia have journeyed to research and publish the positive aspects of dyslexia. Over the past decade, Davis and Braun (1997) have attempted to

facilitate a "paradigm shift" in understanding dyslexia in its entirety through a proposed "New Perspective." A "new perspective" theory suggest that strategic focus on the positive characteristics rather than the deficits explains why dyslexia can be considered a gift (p. 8). The eight basic abilities of dyslexics, identified by Davis & Braun (1997), are presented as the catalyst to two key features: "higher-than-normal intelligence, and extraordinary creative abilities" (p. 5).

Inspired by the "New Perspective" theory, comes a documentary entitled "Creative Brains Gifted, Talented, and Dyslexic" by two scientists, Rothschild and Carlson (2005). The documentary explores the idea that there are two sides to dyslexia. One side has been studied exhaustively, whereas the other side, the creative side has been less researched, although widely accepted. Many of the eight basic abilities discussed in *The Gift of Dyslexia* (1997) are represented in the documentary. The eight basic abilities of individuals with dyslexia, according to Davis & Braun (1997) are:

1. They can utilize the brain's ability to alter and create perceptions (the primary ability).
2. They are highly aware of the environment.
3. They are more curious than average.
4. They think mainly in pictures instead of words.
5. They are highly intuitive and insightful.
6. They think and perceive multi-dimensionally (using all the senses).
7. They can experience thought as reality.
8. They have vivid imaginations.

Dr. Julie Logan, a professor of entrepreneurship at the Cass School of Business, City University, London is widely cited and referenced in research. Dr. Logan has conducted comparative studies exploring "the incidence of dyslexia in entrepreneurs, corporate managers and the general population" in both the United Kingdom (UK) and the United States (US)

(Logan, 2009, p. 328). It is recognized that Logan (2009) set out to thoroughly identify individuals living with dyslexia and who work for themselves or in corporate leadership. Dividing her research into two parts with two different questionnaires the findings were noteworthy. According to the study, 35% of US entrepreneurs have dyslexia compared to 1% of corporate managers, and the US national incidence of dyslexia averaging up to 15% (International Dyslexia Association and Logan, 2009).

Logan (2009) makes reference to questionnaire data that indicate entrepreneurs attribute their success to the same characteristics of strength noted by Shaywitz (2003) and Davis & Braun (1997) and the challenges attributed to their K-12 learning experience. Entrepreneurs, Richard Branson and Charles Schwab, both suggest that "being dyslexic has helped them succeed, but it is education that has failed them" (Morgan & Klein, 2000 and Logan, 2009, p. 329). A wide range of literature suggests the lack of dyslexia awareness is the number one cause of lack of support in education. The awareness of educators is critical and greatly needed to increase the success capacity of individuals with dyslexia (Mather & Wendling, 2012, Shaywitz 2003).

Reid (2005) implies that although dyslexia is the least understood, it is one of the "best known and frequently used disorders in the popular press" (p. 138). TIME magazine, a popular publication, features dyslexia related topics on at least one of its front covers during the year. Included are articles referring to the work of researchers such as Shaywitz (2003), famous individuals with dyslexia, or current controversy about the reading disability (time.com, archived: 2001, 2003, 2009, 2010, 2011, 2013, 2014, and 2015). The theory that dyslexia can be a "desirable difficulty" is also proposed by Malcolm Gladwell as he reflects on a conversation held with extraordinary individuals with dyslexia. Gladwell (2013) discloses that those

individuals believe they succeeded despite dyslexic challenges and because of their dyslexic strengths (p. 106). Hence, challenges and strengths of dyslexia can work hand in hand. Whether through capitalization learning or compensation learning, individuals with dyslexia can generate a journey of success, much like many well-known and successful dyslexics of today.

Table 3

Well-Known Individuals with Dyslexia

Actors/Singers	Entrepreneurs /Inventor	Politicians/Activist	Athletes	Writers/Artist
Harry Belafonte	Richard Branson	Carol Moseley-Braun	Magic Johnson	Anderson Cooper
Tom Cruise	Thomas Edison	Gavin Newsom	Nolan Ryan	Roger Wilkins
Danny Glover	Tomima Edmark	Neil Bush	Jackie Stewart	Steven Spielberg
Tracey Gold	Charles Schwab	Winston Churchill	Michael Phelps	Steve McQueen
Whoopi Goldberg	Albert Einstein	Woodrow Wilson	Tim Tebow	Stephen Cannell
Henry Winkler	Craig McCaw	Nelson Rockefeller	Greg Louganis	John Irving
Orlando Bloom	David Neeleman	Gen. George Patton		Billy Bob-Thornton
Will.i.am	John Chambers			Robert Benton
Salma Hayek	Paul Orfalea			Leonardo Da-Vinci
Harry Anderson				
Loretta Young				
Goldie Hawn				
Jennifer Aniston				
Octavia Spencer				
Cher				

Note. Adopted by Nosek, K. (1997) and understood.org

Famous individuals with dyslexia.

Jennifer Aniston speaks on her experience as a dyslexic in TIME magazine January 21, 2015; growing up, Aniston thought she just wasn't a good student. "I thought I wasn't smart," she said. "I just couldn't retain anything." (Aniston, 2015, para. 2) However, things changed in her early 20's when she went in for an innocuous eye exam for glasses and came out with a diagnosis of dyslexia. "Now, I had this great discovery," she said. "I felt like all of my childhood trauma-dies, tragedies, and dramas were explained." Jennifer Aniston's sentiments are similar to many other actors, comedians, authors, inventors, and entrepreneurs. Many literary works and

online resources such as The International Dyslexia Association and Understood.org make accessible lists that include famous, rich, and well-known individuals with dyslexia. For example, Table 3. is a sample of the lists available to inform dyslexics and non-dyslexics alike that there are real cases of "well-known individuals" with dyslexia. These individuals "have made a major contribution to society through art, science, invention, exploration, entrepreneurship, business, poetry, or writing" (Nosek, 1997).

Educators with Dyslexia

As presented, much of the literature addressing the positive attributes of dyslexia lists creative thinking, highly imaginative, and skilled problem solver as talents and strengths. Interesting enough, the career fields most noted to include people with dyslexia that embody those attributes are engineering, design, architecture, and entrepreneurs. Minimal literary works explore education as a field in which individuals with those positive characteristics of dyslexia such as creativity and skilled problem solving are prevalent in the profession. The strengths of dyslexia that are identified by researchers are not only customary but in some cases, highly recommended for promotion and employment in education.

Glazzard and Dale (2015) published an article using a "life history approach to explore personal experiences of one higher-education lecturer and its impact on her professional identity" (p. 177). Ironically, the participant of the study was identified as dyslexic during their initial training as a teacher. The researchers situate the study by reviewing literary work of Griffiths (2012) who argues that 'there is no indication that teachers and student teachers with dyslexia are any less competent than their non-disabled colleagues' (p. 55). The lived experiences shared through the study strengthens the ideology that focuses on the strengths, and positive contribution of the educator can significantly benefit the profession.

Educators with Dyslexia in the Workplace

A recent study in Finland was conducted to increase understanding of the professional life of tertiary teachers with dyslexia. The European Commission (2007) reports the diversity infrastructure of the teaching workforce needs to reflect the diverse society in which it operates. Diversity includes more than ethnicity, gender, age, and socio-economic status. Little focus has been placed on the benefits of diverse ability levels represented in the workplace.

Burns (2015) uncovers the successful outcomes for the participating teachers comes from the development of self-awareness, resiliency, and self-efficacy. The development of those strength characteristics is "a process of understanding not only one's difficulties but also one's strategies to conquer them" (p.58). The researcher goes on to suggest that teachers with dyslexia such as the ones in her study, "who have insights into dyslexia as well as attitudes and commitment to the profession," could offer valuable contributions and enhancement to educational program development for students with dyslexia.

The authors of *The Dyslexic Adult: In a Non-Dyslexic* World, expound on the dyslexic professional and the dynamics between the non-dyslexic employer and employee with dyslexia. Morgan and Klein (2000) take a look at the experiences of social workers and teachers in the workplace. The authors conclude that it is vital that a self-assessment of one's strengths and weakness in comparison with the job requirement be conducted. Furthermore, Morgan and Klein (2000) find that workplace success for teachers with dyslexia comes with persistence and confidence in their skills and ability to implement strategies to overcome their weakness (p. 109). The arguments against training dyslexic adults to become teachers are contradicted by Morgan and Klein (2000) with an explanation that all teachers come with deficits in academic content

areas such as art, music, drama, and media design. Teachers with or without dyslexia are considered "trainable".

Literature suggests that student teachers with dyslexia exhibit outstanding coping skills that enable them to overcome their areas of weakness (Morgan & Klein, 2000; Glazzard & Dale, 2015; Griffiths, 2012). Studies on adults in post-secondary education earning teaching credentials show a heightened skill in self-regulation. A small-scale study conducted by Morgan and Rooney (1997) compared dyslexic student teachers to non-dyslexic student teachers. It revealed that none of the student teachers with dyslexia felt that they were unable to fulfill the expectations of the job. In fact, the dyslexic student teachers felt their insight gained from having dyslexia, significantly contributed towards their development as teachers (pg. 111). Moreover, they recognized their strengths to be a distinct advantage in making them good teachers.

Impact of Laws and Legislation

The existing law focuses on the educational rights of individuals with disabilities, but dyslexia has yet to be considered a federal categorical disability. In fact, until now pupils with dyslexia often went undiagnosed or had to meet the criteria set forth to qualify for special education services under the umbrella of a Specific Learning Disability (SLD) or Other Health Impairments (OHI) (Mather & Wendling, 2012). Special education has taken a drastic step towards a transformation that is both innovative and challenging. The recent legislation signed by the Governor of California motivates educators to design an instructional program that works to increase skills such as fluency, word recognition, correct spelling and decoding (Mather & Wendling, 2012; International Dyslexia Association, 2012; Shaywitz, 2003).

Table 4

Special Education Law

Law	*Year*	*Significance*
Rehabilitation Act Section 504	1973	This civil rights law ensures that those with disabilities are not discriminated against nor excluded from federally funded programs and activities.
Education for All Handicapped Children Act	1975	This federal legislation cleared a path for a new era by mandating that, "to the maximum extent appropriate, students with disabilities should be educated alongside their non-disabled peers" (EHA, 1975).
Individuals with Disabilities Act (IDEA)	1990	The EHA was renamed Individuals with Disabilities Education Act in 1990. IDEA replaced the term "handicapped child" with "child with a disability" and required the "child with a disability be included in the general education environment to the maximum extent possible" (Individuals with Disabilities Education, 1990; Mather & Wendling, 2012, p.
Reauthorized Individuals with Disabilities Improvement Act (IDEIA)	2004	IDEA was renamed to Individuals with Disabilities Education Improvement Act (IDEIA). The focus on IDEIA is doing what works and increasing achievement expectations for children with disabilities (Individuals with Disabilities Education Act (IDEA), 1990/2004;
Higher Education Opportunity Act	2008	HEOA was enacted on August 14, 2008, and reauthorizes the Higher Education Act of 1965 with major changes such as loan discharges for "disabled persons" and a requirement for post-secondary institutions to be more transparent about costs and improve the copyright policies. HEOA, P.L. 110-315, §103(a)(24)

Note. Table created by the researcher to display special education laws in chronological order.

However, educators understand that teaching goes beyond academics. To "educate the whole child and decrease the domino effect of reading failure that follows through adulthood," as described by Shaywitz (2003), an increase of self-awareness and self-advocacy development must occur to heighten individual's ability to develop a sense of "self-worth" (P. 31). As evidenced by many educational researchers, children are at-risk for school failure when they lack essential skills such as reading (National Institute of Child Health & Human Development, 2000).

It is important to know where one has been to see where one could dare to go. Federal legislation has been the vehicle driving fair and equal rights for individuals with disabilities. There is a pattern shown in improved services and educational progress for people with disabilities after legislation is passed and implemented. As seen in Table 4 over four decades of legislation has morphed into telling the story of the United States' use of laws to protect the rights of individuals with disabilities and improve services and educational services for persons with handicapping abilities.

Assembly Bill 1369

On October 8, 2015, the Governor of California approved Assembly Bill (AB) 1369, which is legislation to assist school districts in identifying and providing services for children with dyslexia (AB 1369 Dyslexia, 2015). The bill added Educational code 56334 which includes "phonological processing disorder" as a description of psychological processes deficits, and mandates that pupils struggling to read and suspected to have a reading disability are identified and assessed for dyslexia. In the past, those who had reading deficits were evaluated with psychological measures that did not include phonological processing. Those students had to qualify as a student with SLD to be eligible for specialized services (International Dyslexia

Association, 2012; Shaywitz, 1996). Current practices allow students without a significant discrepancy between their ability and performance struggle greatly due to a reading disability and fall through the cracks. The failed experience continues into their adulthood (Shaywitz, 2003).

California's new law is one step of many towards an increase in access to "improved educational services" for individuals with dyslexia and a decrease in barriers (Hill & Newman, 2015). Literature suggests that teachers, administrators, and other educational service providers with dyslexia, "perhaps even more than others, recognize the importance of helping children to develop good literacy and numeracy skills" (Morgan & Klein, 2000, p. 110). A self-reliance on their strengths engages those educators with dyslexia to develop alternative and innovative approaches to teaching children (p. 110).

Theoretical Frameworks

To broaden the scope of this inquiry research, the researcher used a theoretical lens that "provides an overall orienting lens for the study" (Creswell, 2014, p. 64). The chosen lens focuses on how educators with dyslexia overcome the challenges in the workplace in relation to the UDL principle of engagement. Also, the theoretical perspective of the strengths-based approach guides the researcher as to what issues are important to examine and how to situate the research (Creswell, 2014).

UDL Framework

The Higher Education Opportunity Act of 2008 defines UDL as a "scientifically valid framework for educational practice that—

a) provides flexibility in the ways information is presented, in the ways students respond or demonstrate knowledge and skills, and in the ways, students are

engaged

b) reduces barriers in instruction, provides appropriate accommodations supports, and challenges, and maintains high achievement expectations for all students (HEOA, P.L. 110-315, §103(a)(24)

For the purpose of this study, UDL is a lens by which the researcher used to investigate ways educators enhance their capacity for achievement through multiple means of engagement consisting of three guidelines: recruiting interest, sustaining effort and persistence, and self-regulation.

The Strengths-Based Approach

According to Saleeby (2006), the Strengths-based perspective is looking at the individual through a lens of natural abilities and capabilities (p. 10). The Strengths-based Approach (SBA) offers guiding principles that shape the lens for seeing human behavior. The fundamental principle is that individuals will do better long-term when they are assisted in identifying, recognizing, and using the strengths and resources available to themselves and their environment (Graybeal, 2001, p. 234). For the purpose of this study, the strengths-based approach is a theoretical perspective focusing on moving from deficits to strengths through a reveal in the experiences of discovering, affirming, and enhancing the capabilities, interests, knowledge, resources, goals, and objectives of participants in the study.

Universal Design for Learning Framework

According to the National Center for Education Statistics, California has served more students in public schools than any other state in the U.S. over the past six years. With an astounding count of over six million students in the public education system, the increase in student diversity has increased just as rapidly. Special education enrollment grew by 88 % in the

past 27 years (Hall, Meyer, & Rose, 2012, p. 139). To respond, California is preparing educators to meet the diverse needs of students by providing a "Universal Access" that will support academic success for all students regardless of their differences (Hall, Meyer, & Rose). Universal Design for Learning (UDL) offers a clear framework that aligns with the core principles of "Universal Access" (CAST, 2015).

Understanding the Concept of UDL

The theory of Universal Design initially was applied to the design of products and buildings that can be accessible to a variety of users. Initially, universal design became a framework developed in the field of architecture by Ronald Mace. The concept of universal design is associated with increasing access to structures such as curb cuts and ramps into buildings. However, a truly universal design supports the population as a whole by building structures to provide auditory, visual, physical, and kinesthetic support for a basic task such as the walk sign, audio cues, and textured ground to increase access and mobility (King-Sears, 2014 and Meyer et al., 2014). There is evidence-based research to support the theory of applying principles of Universal Design to the educational setting. The idea is to create an educational program from the onset consisting of equity, access, and inclusion for all learners (Hall et al., 2015; King-Sears, 2014; Meyer et al., 2014; CAST, 2015)

The Center for Applied Special Technology (CAST), a nonprofit educational organization, began over twenty-six years ago with a focus on eliminating barriers for learners to increase access to education (CAST, 2015). In the 1990s, CAST began to research, develop, and articulate the principles and practices of Universal Design for Learning (UDL). So, with collaborative support from education researchers, neuroscientists, practitioners, and technologists, UDL has morphed into a framework that addresses the primary barrier to fostering

expert learners within any learning environment (Center for Applied Special Technology, 2011, p. 4). UDL is an approach that fits the criteria for transformative change from the "traditional classroom model" that has not met the needs of all learners (Rose, Meyer, Strangman, & Rappolt, 2002, p. 7). In the Higher Education Opportunity Act (HEOA; Public Law 110-315, August 14, 2008), Congress defines UDL as "a scientifically valid framework for guiding education practices."

The Neuroscience of UDL

Over the past 40 years, advances in neuroscience and education research have reshaped our understanding of the learning brain (Hall et al., 2012). There are thousands of networks operating in the brain, but only three primary classes of brain networks partitioned upon the location of the brain is a simplistic way to research how the brain learns (Meyer et al., 2014). CAST (2015) displays the three groups of networks as follows:

- Affective networks, located in the center of the brain, monitors the internal and external environment to set priorities to motivate and to engage learning and behavior.
- Recognition networks, located in the posterior (back) of the brain, sense and perceive information in the environment and transform it into usable knowledge.
- Strategic networks, located in the anterior (front) of the brain, plan, organize and initiate purposeful actions in the environment.

Meyers et al. (2014) explain the significance in focusing on the three networks, rather than thousands more differentiated models of networks. Simply stated, the division model used "originates in the anatomy of every animal with a central nervous system" (p. 55). Anatomists have learned that the receptive and sensory neurons that work to bring information into the nervous system interact most with three sections of the larger parts of the brain. The three

sections are divided up into the three networks that educators, psychologists, and organizational theorists have focused on for any learning organism (Meyers et al. (2014).

Although UDL is rooted in the neuroscience of learning, the widely-used model of the three classes of brain networks aligns with other researchers and theorists (Hall et al., 2012). Meyers et al. (2014) and Hall et al. (2012) agree that there is a need to concern oneself with what is being learned, desire to want to learn, access to take in and build knowledge by developing skill and fluency in action. An important caveat expressed by Meyers et al. (2014) is that any one of the networks can operate independently for learning or as a "lens through which to study phenomena" (p. 56). Universal Design for Learning has three core principles that correlate to each of the brain networks that likewise have been investigated to understand dyslexia.

Principles of UDL

Three primary principles, based on neuroscience research, guide UDL and provide the underlying framework. Earlier literary works associate each principle with a number and CAST has changed that model to eliminate the perception that one is more important than the other. The National Center for Universal Design for Learning is considered a primary web-based resource for UDL information. CAST (2015) has laid out a new model that aligns the principle with the corresponding brain network. Research supports affective network being the initial network discussed because it is referred to as the "jumpstart" or motivation to learning which is key to the other networks. Figure 1 is a visual on the networks, principles, and basic conceptual framework worth reviewing as a means for eliminating barriers in any learning environment. Foundational to the UDL framework are the three core principles and three guidelines for action under each principle that support mastery of the learning process (National Center for Universal Design for Learning website, 2012). UDL principles are designed to activate the brain networks

to turn learners into "individuals who want to learn, who know how to learn strategically, and who, in their own highly individual and flexible ways, are well prepared for a lifetime of learning" (Center for Applied Special Technology, 2011, p. 4).

First, there is the multiple means of representation principle which is designed to offer various methods for presenting content to learners in a manner in which they can easily access and learn. Some learners may need the content presented visually or auditory for various reasons. An individual with dyslexia struggling with reading due to their phonological processing disorder may benefit from auditory representation or visual representations of pictures to increase their access to the content (Mather & Wendling 2012 and Shaywitz et al. 2002). The principle goal is to teach the learner that there is no one means of representation that is better than the other, but rather options that are best for the individual learner. CAST (2015), lists the guidelines for the principle of multiple means of representation as:

- Provide options for comprehension
- Provide options for language, mathematical expressions, and symbols
- Provide options for perception

Thus, there is not one means of representation that will be ideal for all learners, offering options for representation is critical (National Center for Universal Design for Learning website, 2012).

Another UDL principle is multiple means of action and expression. Meyers et. al (2014) elaborates on the significant difference each communicates, moves, and manipulates the environment. This principle is fundamental to offering a plethora of options for individuals to access the environment, express themselves, display their knowledge, and interact as a learner. The guidelines that fuel the multiple means of action and expression principle are:

- Options for executive functions
- Options for expression and communication
- Options for physical action

It is recognized that action and expression require a large number of strategies, practice, and organization which is another area in which learners vary (National Center for Universal Design for Learning website, 2012). Providing an alternative augmentative device for an individual to use as an alternative means for communication, in turn, requires training, and preparation, and flexibility. In the same way, there are not one means of action and expression that will be supreme for all learners, providing options is critical and support for optimal success (Meyers et al., 2014 and Hall et al. 2012).

Multiple Means of Engagement & Affective Network

The principle of multiple means of engagement, like the other principles is based on neuroscience research that is about the affective networks of the brain. Meyers et al. (2014) referred to the extraordinary volume of theory and research that includes books and journals on the topic of affective neuroscience and its relationship to learning (p. 57). At the same time, there is "parallel growth of research within the education sciences on the power of emotion and affect in the classroom" and the increase in educators coming to the realization that engagement and motivation is vital to any "effective educational reform" (Meyers et al., 2014). Research shows that the section of the brain that sets "value" or priorities that shape our experiences and drives our actions are all located in the direct center of the brain (CAST, 2015; Meyers et al.; Hall et al., 2012). The affective network, located in the center of the brain, greatly impacts how individuals learn, how they do not learn, and how they cope with the outcome.

Rosalie Fink conducted experimental trials of individuals with dyslexia and concluded that affect can influence a learner very positively (Meyers et al., 2014; Shaywitz, 2003; and Hall et al., 2012). In some controlled studies, researchers may apply simple manipulation that draws desired affective states out of the participants. For instance, playing happy and somber music

brings a natural affective response that proves the surroundings, environment, and social interactions are key variables that should be considered when dealing with the affective centered principles (Meyers et al. 2014).

Multiple means of engagement is the principle of tapping into an individual's affective capabilities and providing a multitude of important motivators that increases the desire to seize the learning opportunity despite the barriers they face. Mather and Wendling (2012) describes the emotions a child with dyslexia may feel due to the labels, negative responses, and difficulty in performing reading or writing tasks. Multiple means of engagement has guiding principles that can spark the child's affective network and provide motivation, self-determination, and resiliency that equips the child with an emotional capacity to succeed from challenges faced (Mather & Wendling, 2012; Meyers et al., 2012). Recent literary works present the idea that multiple means of representation and multiple means of action and expression can only be realized if multiple means of engagement are implemented.

Principle of Multiple Means of Engagement Guidelines

Three guidelines outline the lens of the UDL principle of multiple means of engagement. Each of the guidelines encase the principle to provide opportunities for individuals to make choices about the way they can engage in the learning or work environment using relevant and authentic materials and activities to maintain interest in success (Johnson-Harris & Mundschenk, 2014, p. 170). The three guidelines that underpin the principle of multiple means of engagement are recruiting interest, sustaining effort and persistence, and self-regulation.

Recruiting interest.

Recruiting Interest is a guideline that focuses on restoring the individual's perceived loss of power by providing choices to pique the interest and increase engagement. Meyers et al.

(2014) explain that "students need to feel responsible" and in control of their success capacity (p. 18). A sense of ownership is important to recruit interest or "buy-in" from the learner. Learning goals and activities must "seem valuable and relevant" to the student (Hall et al., 2012 and Meyers et al. 2014). The learning in school or the job responsibilities must give the individual a sense of purpose with an authentic end goal to increase the individual's interest. An individual must first be interested in overcoming a challenge and reaching their goals for success.

Sustaining effort & persistence.

Many works of literature support the ideology that challenges are necessary to build positive characteristics such as persistence, resiliency, and confidence (Nosek, 1997; Shapiro & Rich, 1999; and Johnson-Harris & Mundschenk, 2014). The sustaining effort & persistence (SE&P) guideline is based on providing "options that appropriately balance challenge and support to ensure that learning occurs most efficiently" (Hall et al., 2012, p. 18). These options may include opportunities to collaborate and work with other diverse learners or co-workers, providing alternatives in the tools and scaffolding offered to complete tasks, and allowing the experience of practice and persistence to obtain the interested end goal.

Self-regulation.

Hall et al. (2012) suggest that creating lifelong learners requires a strengthening of the individual's ability to regulate their learning, needs, goals, and means for overcoming challenges. The skill to assess one's progress and to reflect upon their individual strengths and weaknesses as a learner, employee, entrepreneur or educator come from recruiting interest. A genuine interest in the goal, a sustaining effort to strengthen mental agility, and persistence to overcome challenges by focusing on the strengths are key components generated through this guideline.

Strengths-based Approach

In the field of social work, the strengths-based approach has become an alternative to the traditional approaches to serving clients of all ages, backgrounds, challenges, and strengths. The strengths-based approach (SBA) is founded on a strengths perspective that demands a different way of looking at the individual with an endeavor to cultivate their natural abilities and capabilities. In the 1980s SBA became popular and according to Min (2011), is one of the most influential perspectives in the field of both social work theories and practice (p. 15).

Originally developed in mental health practice concepts, the strength based perspective is adapted for a broad range of other fields (O'Hanlon & Rowan, 2003). Saleebey (2006) explains that the strengths perspective in practice is building on people's strengths through a "holistic respect for the dignity and uniqueness of individuals" (p. 79). Some literary works suggest that the strength based approach can enhance the individual's motivation, increase hope, and improve self-esteem in the midst of challenges (O'Hanlon & Rowan, 2003; Lask 2010). Likewise, there is research suggesting the "philosophy behind the strengths-based approach is to capitalize on your strengths and manage around your weaknesses" (Clifton & Buckingham, 2001, p. 27).

Strengths-Based Approach & Engagement

To gain a greater understanding of how strength based approach (SBA) works hand in hand with the UDL principle of engagement, a look at the study conducted by Lask (2010) on the use of SBA to facilitate career planning for adults with dyslexia is beneficial. The study of Lask (2010) supports other works like Krueger and Killham (2007) that find engagement to be one of the three concepts linked to "worker's contentment in their career" (Lask, 2010 p. 67; and Krueger & Killham, 2007). Engagement is believed to be vital to the development of a positive career self-concept. The researcher further implies that the concept of engagement paired with a

strengths-based approach promotes a clear awareness of strengths, recruiting interest, and commitment to the organization (Lask, 2010). By investing in what the individual does best, the odds of greater success are favorable.

Summary

It has been shown through a synopsis of the primary themes covered in this literature review that an understanding of dyslexia, characteristics, and barriers is vital to this study. Despite the debate surrounding the definition, causation, and history of dyslexia, numerous researchers agree on the characteristics that serve as challenges and strengths for children and adults living with the disorder. The social-emotional impact of barriers experienced by individuals with dyslexia has influenced federal and state laws, educational practices and the dynamics in the many workplace environments. An extensive review of the research of unsuccessful and successful outcomes of students with dyslexia gives a basis for this study to explore ways adults working in education live with dyslexia, overcome challenges, and increase their capacity for success.

The Universal Design for Learning principle, Multiple Means of Engagement coupled with the Strength Based Approach serve as a framework that molds this study. Based on the review of the literature, this study is significant in filling in the gap in research that exists in determining the various means by which educators with dyslexia find themselves in a career engulfed in reading, which is a foundational barrier faced by those with dyslexia. This research journeys through the lived experiences of educators with dyslexia to determine the means in which they overcome barriers and experience success.

Synthesis Matrix

A synthesis matrix was used to organize the variables presented in this review of the literature. This matrix supported the researcher to draw conclusions about unseen relationships existing between variables of the study. The matrix is available in Appendix A as well as through the following URL: **http://tinyurl.com/ktaylor-synthesismatrix**

CHAPTER III: METHODOLOGY

"There are people in this world who do have things that really stop them from achieving and in my eyes dyslexia is not one of them…seeing children with such severe impairments, dyslexia is a small pebble dropped within an ocean of opportunity and colour."~Kitty, Higher Education Lecturer with dyslexia

Overview

This chapter details the methodology of the study. It contains an overview, the purpose statement, research questions, and an in-depth description of the research design, the research methodology, and a depiction of the sample of the population. Instrumentation, data collection, and limitation, as well as a summary, are presented to lay out the format for the research. This study seeks to identify ways educators with dyslexia use a strengths-based approach to overcome barriers and the three guidelines of the UDL principle, "multiple means of engagement" to sustain professional success.

Purpose Statement

The purpose of this qualitative study was to explore the lived experiences of educators with dyslexia, identify barriers experienced as a K-12 student and the means by which they overcome workplace barriers encountered working in K-12 schools as analyzed by three guidelines under the Universal Design for Learning (UDL) principle, "multiple means of engagement."

Research Questions

1. What are the lived experiences of educators with dyslexia as a K-12 student?
2. What are the barriers encountered by educators with dyslexia working in K-12 schools?
3. How do educators with dyslexia overcome workplace barriers as analyzed by principle guidelines of UDL in the areas of recruiting interest, sustaining effort & persistence, and self-regulation?

Research Design

Qualitative research was the methodology appropriate to gather "rich descriptive detail" to share the dyslexic journey from the viewpoint of educators (Roberts, 2010, p. 145). Patton (2002) agrees that qualitative methods are selected when the researcher seeks more in-depth and detailed information about a topic. A social constructionist inquiry study was conducted to capture diverse experiences of adults with dyslexia working in the field of education and to gain a deeper understanding of the ways they overcome barriers. This exploratory inquiry method was designed to "construct reality" by interpreting a group of educator's perceptions based on their experiences and social dynamics living with dyslexia.

The constructionist endeavored to "capture diverse understandings and multiple realities" of the subject (Patton, 2015 p. 122). Also, the research questions sought to gain insight on how dyslexic educators use multiple means of engagement to conquer barriers and increase their ability for success. Patton (2015) describes the qualitative framework, social constructionism, as

> A basic social psychological theorem that is what is perceived as real is real in its consequences…the multiple realities constructed by different groups of people and the implications of those constructions for their lives…any notion of "truth" then, becomes a matter of shared meanings and consensus among a group of people (p. 121).

Specifically, this method develops the concept that "multiple perceptions can exist under the same experiences, " and the experiences of each stakeholder is what constitutes an interpretation of the reality (McMillan & Schumacher, 2010). The distinct perspective of those who experience what Mather and Wendling (2012) describes as misconceptions, misdiagnosis, and stigma of dyslexia is gathered and studied to develop a social reality that derives from different groups of people within the phenomenon. Therefore, a qualitative methodology with a social construct inquiry framework was an appropriate approach.

Population

A population is a group of individuals that "conform to specific criteria" to which the research intends to generalize the results of the study (McMillan & Schumacher, 2010, p. 129). A target population, according to researchers, is a group of people having comparable characteristics setting them apart from other groups in which the researcher wants to draw information and conclusion (Creswell, 2008). Over 60 million individuals in the United States are affected with a reading disability (IDA, 2012). Shaywitz (2003) concurs with research showing that 1 in 10 people live with dyslexia.

The population for this study consists of adults either formally diagnosed or self-identified as having dyslexia with experience working in the state of California as an educator. For the purpose of this study, an educator is an individual employed by a school to support the process of educating students in various academic areas. The population was narrowed to K-12 educators with dyslexia between the ages of 25 and 65 working in Los Angeles County under the jurisdiction of the Antelope Valley Special Education Local Planning Area (AVSELPA). The researcher implemented an "accessibility strategy" and contacted the local SELPA as resources to gain access to the population.

The AVSELPA is composed of ten school districts in the region of southern Los Angeles County. The purpose of the SELPA is to ensure that quality general and special education programs and services are available in the region to meet the individual needs of students with disabilities (Antelope Valley SELPA, May 23, 2014). In the Antelope Valley area, there is a total of 91 school sites with a student population size of over 75,000. Moreover, out of the 346,167 administrative and certificated educators working in the state of California, there is a total of 3,704 working in the AVSELPA (California Department of Education, 2014-2015).

Sample

A qualitative sample is a purposeful selection of cases that provide "information-rich" data allowing for an "in-depth study" of the selected cases with a desire to "generalize to all such cases" (McMillan & Schumacher, 2010, p. 326). A sample of the population must be chosen to conduct research because an entire population cannot always be studied. Research shows that 15% to 20% of the total population experience dyslexia (International Dyslexia Association, 2012; Shaywitz, 2003). Nevertheless, the state of California has only recently enacted a law requiring school districts to develop processes for identifying individuals with dyslexia (AB 1369, 2015). Currently, there is no existing database or information system set up to find adults working in education with dyslexia.

Under section 504 and the Americans with Disabilities Act (ADA), employers must adhere to the law and provide "reasonable' accommodations for an employee with disabilities. However, dyslexia has not traditionally been recognized as a disability, but rather a form of a specific learning disability if formally identified (Mather & Wendling, 2012; Shaywitz et al., 2002; and Burden & Burdett, 2005). As a result, many adults with dyslexia, the "hidden disability," have navigated through life without a formal diagnosis and little to no attention drawn to their struggles or successes due to dyslexia.

The population of 15%-20% may be large, but the sample of educators with dyslexia in the Los Angeles County is not conveniently transparent. The researcher chose to use, what Creswell (2014) refers to as an "availability of sampling frame" by gaining access to email addresses of "potential respondents in the population" (p. 158). This sampling process began by consulting with, a "well situated" person like the director of AVSELPA. The director is knowledgeable about the topic and has access to a "frame" that provided the researcher with the

opportunity to gain permission from superintendents of districts under the SELPA. As a result, the researcher was able to recruit participants that evolved into "key participants within the targeted population" (Patton, 2015, p. 298).

Next, a publication in the form of a digital flyer generated by the researcher was emailed to the population of educators. From the limited educators that responded to the request for volunteers, the researcher received other names of colleagues and family members that fell within the delimitations of the study which is considered "snowball sampling." A "snowball sampling" is a method used to locate key participants that possess the characteristics of a dyslexic adult working in education referred by key participants. Following the leads given by other participants, while maintaining confidentiality, the snowball sample began to grow. Therefore, the combination of snowball sampling and availability sampling was vital to the research design. In addition, McMillan and Schumacher (2010) elaborates on a researcher's decision to select various sampling strategies as needed for the purpose of investigation as a "combination of purposeful sampling" (p. 326). The researcher was able to take advantage of the outlets available to recruit and secure participating educators with dyslexia found through the snowball sampling also known as "network sampling" (Patton, 2015, p 299 and McMillan & Schumacher, 2010, p. 327).

The nature of exploratory qualitative inquiry according to Patton (2015), has an "open-ended naturalist nature" that may require the researcher "to build the sample during fieldwork" (p. 298). Thus, a combination of both snowball and availability of sampling, as described by McMillan and Schumacher (2010) was necessary to generate data that allows the researcher to gain a more comprehensive understanding of the said inquiry and formulate an adequate sample. A set number of participants were selected to "represent the larger group" and increase the

chance of the "results of the study to be generalizable" (Roberts, 2010, p. 150). The sample size for this study was fifteen participants.

Participants

The researcher realizes that the current study presents a slightly more than minimal risk to the participants due to the protected population of adults with dyslexia who would be considered for the study. The researcher requested an in-depth review by the Institutional Review Board (IRB) rather than an expedited review to minimize the greater than minimal risks of this study. The researcher took additional precautionary measures to preserve the confidentiality and dignity of the protected population. This component was vitally important due to the nature of expectations placed on educators and the perceived deficits that come with those who are dyslexic. The researcher is aware that collected data must be used for the study only and accessible to the researcher and individual participant. Therefore, the confidentiality rights of participants are of the utmost importance.

In order to remain sensitive to the needs of the participants, the researcher is purposefully taking additional steps such as the following: 1) Provide a thorough overview of the study by addressing all questions and concerns, presenting the informed consent/assent, and participant's bill of rights; 2) Inform the participants that participation is voluntary and can be discontinued at any time; 3) Allow the participant to select the venue and maintain a distraction-free and comfortable environment; 4) Respect the participant's time by allowing them to select the meeting timeframe outside of the work day that does not interfere with any other obligations; 5) Offer reading accommodations to support full participation from individuals in the study; 6) Protect the confidentiality of the participants by using a pseudo name of their choice.

The researcher reached out to the director of the Antelope Valley Special Education Local Planning Area (AVSELPA) to share the intent of the research. The SELPA director agreed to share and encourage participation at the monthly superintendent's council meeting (Appendix B-Letter of Request). The ten superintendents under the jurisdiction of the SELPA received an overview of the research study that included the contact information for the researcher. Additionally, they received a brief handout with more in-depth information on the study as well as a formal letter requesting agreement to participate in the study (Appendix C-Formal Letter of Requesting Agreement). The researcher sent an email following the meeting, thanking each superintendent for their attention and consideration.

Once the researcher received approval from the Brandman University Institutional Review Board (Appendix D-IRB Approval Letter) and consent to recruit was granted by each school district, an informational flyer (Appendix E-Informational flyer) was emailed to educators globally within each participating district. Interested participants received instructions from the global email and the attached digital flyer to complete a brief digital questionnaire. A hyperlinked URL was provided within the email and the digital flyer for easy access to the questionnaire online. The questionnaire (Appendix F-Participant Contact Questionnaire) was designed to gather demographic information for each participant through a secure method. The flyer contained the researcher's email and contact information for assistance and further information. The participants were informed to use personal email rather than work email and to contact the researcher outside of contractual work hours only. The researcher maintained a confidential contact log for all inquiries from potential participants and screened them using an inclusion criteria of self-reporting as an educator with dyslexia. Educators recruited for this study were informed of the process to solidify their continued interest to contribute to this

research study. After the participants agreed to take part, they were required to sign an informed consent form (Appendix G-Participant Consent Form).

Instrumentation

Purposeful interviews with the supplementary methods of observations and artifacts were used to identify "multiple realities" that became "a matter of shared meanings and consensus" were used to provide rich data on ways to overcome barriers of dyslexia in the workplace according to K-12 educators living with the reading disorder (Patton, 2015). The interviews took place in a warm and comfortable environment that was convenient for the participant. A classroom, office, coffee shop, and the researcher's home were optimal spaces to conduct the one-to-one interviews.

Interviewing

The purpose of the interview, according to Patton (2015) is to guide the researcher on a path to enter into the research participant's perspectives on the study topic. "Qualitative interviewing begins with the assumptions that the point of view of others is meaningful and knowable and can be made explicit (p. 426)." In particular, social constructionist interviewing is an inquiry interview approach that engages in shifting the focus from individual construction of reality to a shared discourse and how those particular subjects' shared experiences co-construct through dialogue (Patton, 2015, p. 434). Simply stated, the researcher set out to use purposeful instruments to collect data revealing the reality of a group of educators that grew up with challenges due to dyslexia and are currently working in the field of education experiencing barriers resulting from dyslexia.

Current literature supports social constructionist interviewing as an approach that requires "flexibility and dexterity" depending on an "emerging relationship…formed between the

interviewer and the interviewee in the course of the interview" (Patton 2015, p. 432). This interviewing approach was appropriate for gathering the data from each educator that has the basic knowledge of what dyslexia is but offered a unique perspective on growing up with the challenges of dyslexia, learning to overcome those challenges, and experiencing success in the workplace.

The interview guide approach in combination with a standardized open-ended and an informal conversation interview approach is a strategy, according to Patton (2015) that allows the interviewer flexibility in examining and determining when to explore certain subjects in greater depths (See Appendix H- Interview Script and Questions). Combining approaches offered the interviewer of this study the opportunity to gather descriptive exploratory data, pertinent information using the principle of engagement guidelines as a theoretical framework for overcoming workplace barriers, and discover strategies used to increase success capacity. Through the lens of strengths-based approach, the researcher posed questions about "new areas of inquiry that were not originally anticipated in the interview instrument's development," but was warranted to help gain a deeper understanding of the data shared (p. 442).

The interviewer engaged in the process of developing and using an interview protocol for asking questions and recording answers as suggested by Creswell (2014). These interviews were audiotaped and transcribed to capture actual data. At the beginning of each interview, the researcher reminded participants of the purpose and procedures of the study and that the interview would be recorded. The researcher reassured participants that all information would remain confidential and secure by reviewing the IRB requirements and the researcher's procedural guidelines.

Observations

As an additional instrument, observations were conducted, and the researcher used observation field notes which are "comprehensive in the sense that it is continuous and open to whatever may be significant" (McMillan & Schumacher, 2010, p. 350). Also, the researcher recorded natural occurrences seen and heard in a semi-structured manner using variables outlined in the literature review as a framework to gather field notes on the "behavior and activities" of five of the fifteen willing interviewees (Appendix I-Observation Field Notes Template).

Artifact Review

The final supplemental instrument used was the artifact review template (Appendix J-Artifact Review Template). Artifacts, as described by McMillan & Schumacher (2010) are concrete indicators that describe people's experience, knowledge, actions, and beliefs (p. 361). Patton (2014) elaborates on qualitative research as frequently illustrating the intricacies of multiple realities. With a Social Constructionist inquiry, flexible guidelines can honor multiple realities (p. 123). Therefore, private and official documents, as well as visual materials, were used as instruments to collect additional data with flexible guidelines on each of the five participants observed and interviewed.

Instrument Validity and Reliability

The interview guide, questions, observation field notes template, and artifacts request were developed by the researcher in alignment with the purpose of the research and research questions to certify that the investigation of variables is sufficiently covered in each instrument (Roberts, 2010). The Instrument Alignment Matrix (Appendix K-Instrument Alignment Matrix) was a useful tool used to maintain consistency and focus on the research questions and purpose of the study. A pilot test was conducted with a coordinator of psychological services, a special

education teacher, and a program specialist to ensure research questions were clear and aligned with the purpose of the study. Feedback was received from pilot participants as well as a dissertation committee member, and necessary revisions were made to the interview guide.

Finally, the researcher used the same interview guide for each participant with minimal variation applied. Each participant received a copy of their transcription to validate the information received and applied to the study. Validity in qualitative studies refers to the "appropriateness, meaningfulness, and usefulness of the inferences" researcher analyze and use for the study, refers to the consistency of these inferences regardless of time, locations, and circumstances (Frankel & Wallen, 2006, p. 462). Therefore, a reliability rater was enlisted to look over transcriptions and coded data. Creswell (2014) refers to this as the "member checking to determine the accuracy of the qualitative findings" (p. 201). Member checking is a process where the researcher goes back to the participants and allows them to review the codes and their transcript to confirm accuracy.

Data Collection

Each participant indicated their preferred means for contact on the digital questionnaire. To honor their preference, the researcher either texted, emailed, or called each participant during the initial contact. The data collection process was thoughtfully communicated with clear expectations, directions, and purpose to increase participant's confidence in their decision to partake in the research study. Each participant received a confirmation email of their interview time, location, a copy of the Institutional Review Board (IRB) informed consent attached, and a request to complete the form before the interview. The email described precautions taken to maintain the confidentiality of the information provided. IRB guidelines were carefully followed to ensure confidentiality of information gathered.

Face-to-face semi-structured interviews were conducted with a duration time ranging from 30 to 60 minutes. The researcher used two different audio recorders to capture the dialogue. Observations were scheduled and conducted with one out of every three participants of the total sample for a duration of up to one hour. Field notes were gathered using a protocol developed by the researcher. The researcher spent more time as an observer and minimal time as a participant in the activity.

Table 5

Data Collection Process Checklist

STEPS FOR DATA COLLECTION	DETAIL CHECKLIST
1) Contact Special Education Local Planning Agency (SELPA)	□ Meet with director of the SELPA to present research study □ Get placed on Superintendent's Counsel Meeting Agenda
2) Obtain written permission to recruit and collect data on educators with dyslexia	□ Present study to all superintendents in the SELPA □ Give update on IRB □ Give detailed description of the research study benefits and process □ Provide clear process for notifying the researcher of the district's approval to be a part of the study
3) Expert panel reviews interview script	□ Email script to panel for review □ Schedule pilot interview with one of the panel members
4) Recruit and contact participants **Maintain Confidentiality*	□ Develop an attractive and highly engaging flyer that includes a URL to a Google form used as a tool to collect interested participants contact information □ Follow district's protocol for sending the Flyer globally to all staff members through email □ Contact by phone and email all perspective candidates that qualify for the study based on the delimitations identified in Chapter I
5) Inform participants of their rights and obtain signed copy of their informed consent form	□ Schedule interview time with additional 10 minutes to go over consent form, confidentiality, and procedures □ Answer any questions □ Ensure participants have a signed copy

STEPS FOR DATA COLLECTION	DETAIL CHECKLIST
6) Follow the interview script	☐ Print script and questions on cardstock paper and laminate for endurance ☐ Keep a copy of the interview script on Google Docs as well as a pdf in iBooks on the cell phone
7) Conduct Observations	☐ Use the observation field notes template in Google on iPad or iPhone to maintain continuity ☐ Provide a brief reminder of confidentiality and review consent form with the participant ☐ As the observer, note any and all observations relevant to the study ☐ Take advantage of any invitation to participate in the activity to gain a deeper understanding of participant's experience in the workplace
8) Collect Artifacts	☐ Use the observation field notes template in Google on iPad or iPhone to maintain continuity ☐ Provide a brief reminder of confidentiality and review consent form with the participant
9) Member Checking	☐ Confirm participant's willingness to meet again to go over themes/codes developed and their individual transcribed interview ☐ Allow each participant the opportunity to verify accuracy of the transcription and codes developed as a result of their interview, observation or artifact review (if applicable) ☐ Secure participants signature agreeing to verification statement

Note. Table displays the researcher's data collection process in a list format

After the interview or observation, purposeful artifacts were selected that further explored the lived experiences, challenges, and strengths of dyslexia, to gain a deeper insight into the inquiry study. Table 5 outlines the steps taken to ensure all required processes and procedures were followed for data collection (Appendix L-Data Collection Procedural Checklist).

Data Analysis

Creswell (2014) uses the analogy "peeling back the layers of an onion" to describe analyzing qualitative data. The intent of the researcher is to "make sense out of the text and image data" gathered (p. 195). Patton (2015) elaborates on strengthening the analysis of the

study by using a triangulation method. The researcher uses data triangulation as well as theory triangulation. Both triangulation strategies allow the researcher to interpret multiple perspectives from a variety of data to conduct research analysis. The triangulation method is appropriate for this social constructionist inquiry because the researcher relies on "multiple realities" of the same phenomenon which can be detected within the interviews, through observations, or interpreted from artifacts of the participants.

The triangulation of data pulled from interviews, observations, and artifact reviews of each participant's response was compared and analyzed. In a social constructionist inquiry, it is important to "capture and honor multiple perspectives, and seek to understand multiple realities…by comparing the ways the social groups come to share a worldview" (Patton, 2015, p. 127). The researcher used coding procedures to obtain an accurate view of the participant's reality. According to Corbin and Strauss (2008), coding is a method of identifying, naming, and categorizing data as a major part of the analytical process.

Coding

Open Coding

Open coding, according to Corbin and Strauss (2008), is defined as "relating concepts to each other" (p. 195). The first transcription was scanned for common themes identified by the researcher. The themes were clustered and used to form open codes. After that, each interview transcription was compared and combined using a data analysis comparison method (Corbin and Strauss, 2008). Assigning data into sections of meaning is considered open coding. Corbin and Strauss (2008) explains that constant comparison of data gathered from participant interviews as well as observations and artifacts if applicable are used to assure saturation as well as a mechanism to reduce the ability for the researcher to be biased. Through this process, the

researcher develops what is known as “parent codes.” Constant comparison of the data categorized into parent codes challenges the researcher to review the data consistently and verify whether themes continue to be appropriate for the research study.

Axial Coding

Next, the researcher engaged in axial coding where all themes are analyzed to discover sub-themes (Strauss & Corbin, 2008). Those sub-themes are also known as “child codes.” The premise to this step is to address obvious connections between themes found through open coding and any emerging sub-themes relevant to the study found through the process of axial coding. The constant comparison of themes and sub-themes guided the researcher to contemplate whether or not the sub-themes were significant enough to become a major theme.

The constant comparison method that also consists of the researcher placing data into categories and then analyzing these categories after a few days to reassess if the data continues to fit the category or needs reassignment. As similar codes began emerging and data from other participants and methods are added. The constant comparison method allowed for the researcher to rename the themes when needed. Once all codes were solidified, the researcher began the process of developing “social constructions and paradigm assumptions” impacting the inquiry study (Patton, 2015, p. 127). In other words, the researcher began to connect the themes (parent codes) and sub-themes (child codes), place the data into the appropriate codes and determine frequencies of data within each code.

Selective Coding

Throughout this research, concepts, and variables were identified and established. During the data collection, those concepts and variables of the study became more defined. Once the themes became saturated, the data collection ended. Corbin and Strauss (2008)

introduce selective coding as a process that involves integrating the data gathered and linking it to the research concepts described throughout the study. The researcher carefully reviews the codes to ensure the purpose of the research study and research questions remain at the center of the development of the coding process. For instance, the focus of childhood and adulthood challenges as discussed in chapter two influenced the setup of the parent and child codes.

Coded Data Analysis

The theoretical lens of UDL principle of engagement and the strengths-based perspective guides the list of selective codes the researcher generated to code the data. In qualitative inquiry, a code is a word or phrase that "symbolically assigns a summative, salient, essence-capturing, and evocative attribute for a portion of language-based or visual data" (Saldana, 2012, p. 3). The researcher used NVivo, a qualitative data analysis (QDA) computer software, to organize and support the analysis of the data gathered for this study. The statements created to guide the development of codes for each research question were:

1. As a K-12 student with dyslexia I experienced _____.
2. As a K-12 educator with dyslexia I experience _____.
3. Educators with dyslexia overcome barriers relating to the UDL guidelines of (a) recruiting interest, (b) sustaining effort and persistence, and (c) self-regulation by the following:
    a) I am motivated by _____.
    b) I endure by _____.
    c) I self-regulate by_____.

Some possible themes may be experienced reading challenges, experienced embarrassment, or motivated by parents. The information grouped into selective codes facilitating a deeper analysis of the data and lead to the research story and development of the theory.

Limitations

One limitation of this research study relates to the limited sample size. The participants offered insightful information about their reality as teachers, administrators, counselors, and a psychologist with ages ranging from 25-65 years old. All participants reside in Southern California. Although the sample size was appropriate for this social construction inquiry study, the small size limits the ability to generalize beyond this specific set of participants.

A second limitation of this study is the time constraints of the participants and the researcher. Perhaps with more time to explore the educator's daily challenge with dyslexia through extended observations in various educational settings such as staff meetings and parent-teacher conferences, the researcher could further discover hidden barriers that go along with their "hidden disability."

A third limitation to consider is the recruiting method which requires participants to read and respond to a flyer, email, and questionnaire. The target population is individuals with dyslexia who may have some difficulty reading the information provided by the researcher.

Another limitation is the possibility of the bias or inclusion that may accompany the researcher's personal assumptions into the research process and consequently, influence the research study. As an educator and a parent of a child with dyslexia, it was an important study for the researcher to embark on, with hopes to inform policy, educational procedures, and the mindset of non-dyslexic educators.

A final limitation identified is the geography of the population. The research study was delimited to ten districts in Los Angeles County within the surrounding area of the Antelope Valley. The study does not extend to other counties in Southern California, which limits the research study.

Summary

This chapter introduced the methods and procedures used to facilitate this study. The three means for qualitative data collection included interviews, observations, and artifact reviews executed in an inclusive process of validating and expounding with deep insight into the research questions. Valuable data was gathered, and key categories were developed through a constant comparison strategy from the literature review and triangulation of the three data collection methods. The key themes that emerged from all data sources are detailed in Chapter IV.

CHAPTER IV: RESEARCH, DATA COLLECTION, AND FINDINGS

"I can talk about it now and not feel ashamed because I am who I am. I am actually glad I went through my struggles because the struggles made me stronger and a better educator. I tell that to students too. I also tell them that they're overcoming things right now that feel hard and painful, but in the long run, they'll be stronger and better for it." ~Cecelia Rodgers, Educator with dyslexia

Overview

This qualitative inquiry study journeyed the lives of participants to identify patterns and develop themes of the lived experiences of educators with dyslexia as K-12 students and how they overcome workplace barriers through the three guidelines of the UDL principle of engagement. In this chapter, the purpose and research questions for this investigation are restated to provide a consistent lens leading to the summarization of the research methods, data collection procedures, population, sample, and demographic data. This chapter also includes a presentation and analysis of the data by way of narrative descriptions and tables serving as the scenic route on this journey. Finally, a summary of the findings concludes and drives home this chapter.

Purpose Statement

The purpose of this qualitative study was to explore the lived experiences of educators with dyslexia, identify barriers experienced as a K-12 student and the means by which they overcome workplace barriers encountered working in K-12 schools as analyzed by three guidelines under the Universal Design for Learning (UDL) principle, "multiple means of engagement."

Research Questions

1. What are the lived experiences of educators with dyslexia as a K-12 student?
2. What are the barriers encountered by educators with dyslexia working in K-12 schools?

3. How do educators with dyslexia overcome workplace barriers as analyzed by principle guidelines of UDL in the areas of recruiting interest, sustaining effort & persistence, and self-regulation?

Research Methods and Data Collection Procedures

To capture diverse experiences of adults with dyslexia working in the field of education and gain a deeper understanding of the ways they overcome barriers, a social constructionist inquiry study was conducted. This exploratory inquiry method was designed to "construct reality" by interpreting a group of educators' perceptions based on their experiences and social dynamics living with dyslexia. The primary data collection was from scripted interview questions. A supplementary gathering of data from observations and artifacts function as patches to fill gaps in the responses generated from the oral interviews. There were ten districts identified in the Los Angeles County under the jurisdiction of the Antelope Valley SELPA. The districts were reflective of the total population of K-12 organizations in the state of California.

Population

The population for this study consists of adults either formally diagnosed or self-identified as having dyslexia. Subjects are currently employed and have experience working in the state of California as an educator. For the purpose of this study, an educator is an individual employed by a school to support the process of educating students in various academic areas. The population was narrowed to K-12 educators with dyslexia between the ages of 25 and 65 working in Los Angeles County under the jurisdiction of the Antelope Valley Special Education Local Planning Area (AVSELPA).

Sample

The researcher gained permission to recruit for the study in 5 out of the 10 districts. Out of the five districts, 18 respondents completed the electronic interest questionnaire developed by the researcher to gather demographic information and the consent to be contacted. Nevertheless, 17 out of the 18 respondents consented to participate in the study. Moreover, 14 out of the 17 respondents made themselves available, interviewed, and contributed their story to this research study. Additionally, 2 of the 14 participants agreed to allow the researcher to observe them in the workplace and 3 of the 14 participants agreed to allow the researcher to include the email correspondence during the initial contact and interview set up as part of the artifact collection. With observational field notes and artifacts, the researcher was able to use the strategy of triangulation of data to corroborate data from all three sources to increase the validity of the findings (Creswell, 2014). The sample size of 14 educators with dyslexia provided enough depth and breadth to the study.

Demographic Data

As presented in Table 6, all participants met the study criteria. Participants work as educators in Los Angeles County within one of the AVSELPA K-12 school districts. All 14 participants completed the questionnaire with their demographic information, consented to participate in the study, and contributed to this research study by taking part in an interview. Participants of this study fall within the age limit of 30 and 65 years old. Equally important, 50% of participants have been formally identified as having dyslexia, and the other 50% are self-identified as have dyslexia. Another essential point is that 75% of the participants are female. This percentage mirrors the AVSELPA's average of women to men working in K-12 education. All participants have experience working well over five years as either a teacher in the

classroom, program coordinator, or site and district administrator. The participants work in a variety of programs, with students of various grade and ability levels.

Table 6

Study Participant's Demographic Information

Participant	Age Range	Gender	Identification Status	# of Years as an Educator
Participant 1	60-65	Female	Self-Identified	17 years
Participant 2	60-65	Male	Formally Identified	23 years
Participant 3	40-49	Female	Formally Identified	25 years
Participant 4	50-59	Female	Self-Identified	18 years
Participant 5	40-49	Female	Formally Identified	24 years
Participant 6	60-65	Female	Formally Identified	16 years
Participant 7	50-59	Female	Self-Identified	29 years
Participant 8	40-49	Female	Formally Identified	28 years
Participant 9	40-49	Male	Self-Identified	15 years
Participant 10	40-49	Female	Formally Identified	12 years
Participant 11	50-59	Female	Self-Identified	12 years
Participant 12	50-59	Female	Formally Identified	09 years
Participant 13	40-49	Female	Self-Identified	15 years
Participant 14	30-39	Male	Self-Identified	17 years

Note. Data generated through the questionnaire. Participants are ranked from first to complete a questionnaire to the last.

Presentation and Analysis of Data

The journey begins with anecdotal accounts of the lived experiences of educators with dyslexia as K-12 students and travels on to the ways they overcome workplace barriers. The findings present shared realities developed from the responses to scripted questions posed during personal interviews and a triangulation of those accounts with supporting data seized from observations and collected artifacts. The researcher captured and honored "multiple perspectives" and sought to understand "multiple realities" in order to construct one conceptual reality of this phenomenon (Patton, 2015, p. 127).

Individual interviews ran from 30-45 minutes. Participants indicated their eagerness to share their story. Three of the participants expressed their reluctance at first, but deemed it

"important to add to this body of work to help others" (Face, study participant). All participants provided the researcher with a pseudo name to use in this study. The triangulation of data from interviews, observations, and artifact reviews was compared and analyzed. Coded data generated themes through a selective coding process. The researcher ensured the purpose of the research study and research questions remained at the center of the development of major and minor themes. Data collected and reported in this chapter are based on the major (parent) and minor (child) codes developed with the help of a guiding statement related to each of the research questions. The researcher considered those code guiding statements (CGS) throughout the coding process. This process ended with a group of selected codes that facilitated a deeper analysis of the data.

Research Question 1

What are the lived experiences of educators with dyslexia as a K-12 student?

{CGS-"As a K-12 student with dyslexia I experienced_____."}

Reading Challenges

According to research, reading difficulties are a manifestation of dyslexia that can be experienced by children and adults (Mather & Wendling, 2012 and Shaywitz, 2003). The data collected from interviews, observation, and artifacts demonstrate that 13 of the 14 participants experienced reading as a significant challenge growing up as a K-12 student. With 75 references, reading challenges surfaced as a major theme along with minor themes as participants elaborated on their experiences with reading as a K-12 student.

All 13 interviews began with a discussion on how difficult reading was growing up. Some indicated they saw letters, numbers, or words differently on the page which contributed to their reading challenge. Others explained that it was the processing and understanding of the text

that led to their difficulty in school. Most participants described their reading as slow, choppy, or laborious which led to their struggles as a K-12 student with dyslexia.

Reading words or numbers mixed up or backward.

Six participants referenced processing the letters, words, or numbers differently which made them see and read text backwards scrambled or laid out as one long word. Johnny Defacto explained that when he read aloud as a K-12 student he "turned words around." CJ described seeing "all the words run together like one big word" on the page as she read.

Reading comprehension difficulties.

Five participants indicated that reading comprehension was the reason reading resulted as a challenge in school. Jody expressed that after struggling to read the content at school she "would get home and not have a clue at what was just read in school." Yvan Parks described in detail that she "loved to read, but most of it didn't make sense" and had to read the passage over and over before understanding it. Face vividly explained the reason why she struggled to comprehend the reading:

> So, I went home and read the chapter each night. I still didn't know what I was reading. You see, it is not that I can't read the words, but that I can't create the picture of what I am reading. When you can't create the picture in your mind, it is very hard to follow the story. (Face)

Reading slowly.

Reading fluency contributed to four of the participants' struggle as a student. During the interview, Tracilla admitted that "a hundred percent of the time it took me longer to read than most people." In the same way, Daisy explained that after school "I would immediately go home, sit down, and start doing the work involving reading because it always took me longer."

Similarly, John Doe responded, “in elementary and junior high the text got longer and longer, and I struggled reading it because I read slower.”

Writing Challenges

Research reveals that written expression can be a challenge for individuals with dyslexia due to the delayed processing of thoughts and the act of writing and spelling deficits can slow down the writing ability (Mather & Wendling, 2012). 31 references were made by 8 of the 14 participants related to their struggle with writing as a K-12 student.

Writing letters, words, or numbers mixed up or backward.

Two participants described their struggle as a student with writing backward. “In my writing, my letters would be backward, especially if I was hurrying” (Daisy). Additionally, Sunshine shared the same sentiments and explained that she “could write completely backward” and read her backward writing.

Spelling Difficulties.

Writing was a challenge as a student with dyslexia due to spelling difficulties for seven of the participants. For instance, CJ stated, “spelling was a challenge and teachers knew I had dyslexia in high school.” Likewise, Juan explained, “it was a challenge typing my essays because of all the spelling mistakes I made.” Also, Katie T. elaborated on her struggle with spelling tests and described her spelling ability as “atrocious.” She elaborated, “when writing I could see the beginning letters and sometimes the ending letters, but the letters in between were all mixed up” (Katie T.) In the same way, Sunshine admitted she was “a terrible speller in school.”

Writing fluency difficulties.

The ability to process thought and simultaneously fire up the fine motor muscles to write those thoughts is challenged when an individual has dyslexia (Shaywitz, 2003; Mather & Wendling 2012). For example, CJ was one of three participants that expressed how much longer it takes to write. "I would spend hours writing papers to get the same quality of essay as anyone else." Likewise, Sunshine explained that "it used to take a good four to five hours to write a paper because of the mechanics required when processing thoughts."

Speaking Challenges

Interview data revealed that participants experienced challenges with language acquisition and expression as a K-12 student. Children with dyslexia often need more time to summon an oral response because their speech is not fluent due to the pausing or often hesitating when speaking. The challenges include lots of mispronunciation of long and unfamiliar words by leaving out parts or confusing the order of the parts of words-"for example, aluminum becomes amulium" (Shaywitz, 2002, p.123). 14 references were made relating to the speech challenges experienced by 6 out of 14 study participants.

Articulation difficulties.

Four out of six participants indicated that they struggled with speech articulation as a result of being dyslexic. For instance, Johnny Defacto responded:

> I didn't feel comfortable reading in front of people. I remember being so nervous when the teacher would call on me to read that I couldn't speak or get anything out. If I tried to read, I would stutter. (Johnny Defacto)

Additionally, Anette Butcher expounded on how she "got words mixed up and turned around" when speaking. "I didn't speak until the 6th grade" (Anette Butcher).

Oral expression difficulties.

At the time of the interview, Yvan Parks told the researcher that it is not that she could not read the words or numbers, "but it was saying it that was a challenge for me growing up." Also, Juan elaborates on his struggles with both articulation and expression. "I was expected to learn several different languages growing up in a different country, and that was difficult for me. Speaking those languages and even my own native language was a challenge" (Juan). Consequently, all six participants revealed their struggle with oral expression growing up as a student with dyslexia.

Social Emotional Challenges

Significantly, all 14 participants reported that they experienced social-emotional challenges as a K-12 student with dyslexia. The researcher documented and coded 108 references relating to the specific emotions, reasons, and the impact that occurred due to the barriers the participants experienced as a child, teenager, and young adult.

Anxiety.

According to data, 18 references demonstrated experiences of anxiety by seven of the participants. Namely, Daisy revealed that she developed "ulcers in the 5th grade" because of the stress and anxiety she felt reading in front of people. Johnny Defacto expressed, "I was nervous whenever I was expected to read aloud in front of others." Similarly, CJ said, "I would sit in class obsessing over what the teacher was going to make me read." Katie T. responded that she "had severe test anxiety" that it impacted her self-esteem. Sunshine made the connection that when she was stressed out and feeling anxious, she made more mistakes which fed into the social-emotional challenges.

Crying.

Four of the participants admitted that they experienced crying as an emotional behavior to communicate how they felt about reading or completing tasks that were difficult due to having dyslexia. For example, Daisy said, "I would literally cry not to go to school." Jody explained how she would "cower at the desk and cry when asked to read aloud."

Frustration.

Seven of the participants made references to being frustrated as a student with dyslexia. Nita Kimberlin said, "I was that student that would put my name on the paper, get frustrated, and yell at the teacher to teach me how to do it." Complementary to this, Juan admitted that he got to the point where he "didn't want anything to do with school." Katie T. responded, "I often got frustrated because the hard and long work I completed would often be wrong…I remember thinking, what is the point in doing it at all?"

Feeling less than.

There are 14 references made in total by six participants experiencing a "less than" feeling as a student with dyslexia in grades K-12. For instance, Anette Butcher exclaimed that it wasn't until she was older that she realized she was not "crazy or dumb." Also, Yvan Parks elaborates on her experience in 2nd grade when she thought that she "must be the dumbest person in the room." She further explained that she "attended a predominately White school…I felt like it was because I was Black that I wasn't smart." Additionally, Tracilla responded that she was the "stupid one" out of all her siblings. "I have always saw myself as the lesser family member as oppose to the others who were much smarter."

Task avoidance.

Six participants recounted times when avoiding tasks was a mechanism for coping with challenges due to being dyslexic. There were 15 references coded for this minor code. Daisy admitted she pretended to be sick and tried the "thermometer to the light sort of thing" to get out of going to school. In the same way, Johnny Defacto explained his method for avoiding reading aloud in class. "I would read another part of the text that I was ready for…the teacher would let me keep reading." Furthermore, Face reported that she "was a bad kid by talking out and being rude to the teacher" to avoid reading. Juan mentioned that he "tried to avoid doing the work and got into much trouble because of it."

Social-emotional impacts caused by an educator.

Based on interview data, six participants shared experiences of being hurt by a teacher's response or comment. However, 11 participants revealed there were one or more teachers that had a positive impact on their social-emotional well-being. All fourteen participants explored their experience with an educator that made either a negative or positive impact.

Hurt feelings by an educator. Daisy stated, "A teacher literally told me, 'you can't read, you can't write what's wrong with you'…" Equally important, Jody identified that there were "two teachers that I dreaded" because of their attitude towards her. Also, Sunshine recounted the time she was "…yelled at and sent to the corner" because the teacher was frustrated with her. In the same way, Sunshine spoke of the 5th-grade teacher that called her "retarded." "I would go ask her a question, and she would actually say, 'no retard, go sit down'…the way that teacher treated me had a huge effect on my self-confidence" (Sunshine). Subsequently, Cecilia Rodgers expounded on one of her K-3 teachers that was frustrated with her reversing certain letters like b and d even in her name. "She taunted me about misspelling my name with the mispronunciation

of my name" (Cecilia Rodgers). For example, instead of saying "Rodgers" the teacher purposefully mispronounced it as "Rob-gers."

Encouragement by an educator. In contrast, both Daisy and Johnny Defacto spoke of, "amazing" high school teachers that "inspired" them. Likewise, John Doe sentimentally shared, "I would never have been here if he [teacher] hadn't inspired me." In some cases, participants reminisced on the unique teaching style that kept them interested and engaged. For instance, Anette Butcher explained, "He [teacher] would teach with enthusiasm, by getting on top of the desk and acting out the content. I was like wow that's amazing." Similarly, Nita Kimberlin explained how the teacher's high expectations and "no nonsense" teaching style set her up for success. "…I could hear all her [teacher] stern instruction in my head and I passed the exam" (Nita Kimberlin).

Additional Learning Supports

Through the coding process, the researcher collected data that led to the overall theme of additional learning supports. Consequently, 12 participants made references to some additional support that steered them toward success in K-12 (Table 7). It is important to note that the 43 references of learning supports were in addition to the standard instructional provision in the classroom or the typical nurturing support of a parent. The participants placed emphasis on the extra interventions that fostered motivation and skill building.

Accommodations.

Three participants suggested that the accommodations provided to them through special education services or a 504-plan made all the difference in their academic progress. Both Jody and CJ described their accommodations such as note-taking support and more time to take tests, as being vital to their success.

Parent(s).

Eight participants recalled ways their parents advocated, sacrificed, encouraged, or paid for educational interventions to help meet their academic needs. Jody said, "my parents were on it, got me assessed, and got me help." Another example is when Daisy spoke of her father taking her early every day to get extra tutoring. "Because of that, I graduated high school with A's and B's." (Daisy) Complementary to this Tracilla stated, "Parent involvement is key, and it helps kids go further. My parents had me assessed through a private assessor".

Tutor.

According to the data, eight participants received tutoring in K-12. Jody reported that she "went to a tutor every day." Similarly, Tracilla shared, "I had tutoring at school…and after school. "The tutors worked with me on reading by teaching me how to read." (Tracilla)

Table 7

Additional Learning Supports

Minor (child) Code	N	n	Supporting Quote
Accommodations	3	7	*"More time helped and being away from all the noise helped me."* (Jody)
Parent	8	18	*"My mother motivated me as I grew up…she always had high expectations of me."* (Yvan Parks)
Tutor	6	13	*"I had tutoring, and I learned all the tricks and got tools to be successful."* (Nita Kimberlin)

Note. N=number of participants and n= number of times referenced.

Research Question 2

What are the barriers encountered by educators with dyslexia working in K-12 schools?

{CGS-"As a K-12 educator with dyslexia I am experiencing_____."}

Reading Challenges

Out of those 13 individuals, 9 of them continue to experience reading difficulties in the workplace. Reading long emails, texts books aloud to the class, and office memos prove to be challenging and a consistent workplace barrier that they strive to overcome.

Reading words or numbers mixed up or backward.

Four participants expressed their difficulty reading and processing letters, words or numbers in the workplace. For instance, Yvan Parks admitted that "I still to this day get those humps wrong on the lowercase letters "p" and "q". The researcher observed Anette Butcher struggling to read and input a passcode needed for Google classroom training. The code contained upper and lower case letters as well as numbers made available visually projected on a screen. The observable behavior reaffirmed Anette Butcher's response, "I'll give students the wrong page number because I read it backward and when they say 'what?' I blame it on my dyslexia."

Reading slowly.

Five participants explained their challenges with reading emails, long text, and the names of students. Both Tracilla and John Doe revealed that it takes them longer than most to read long emails that come from various stakeholders. Similarly, Face admitted that "reading long documents like an IEP [Individual Educational Plan]" is a workplace barrier for her. As a result, CJ exclaimed reading challenges hinder her from participating in work related activities. "I will not read the names at graduation ceremonies because reading new or unfamiliar names with different phonetic rules is not easy for me" (CJ).

Writing Challenges

All fourteen participants specified they encounter writing challenges in the workplace. Those challenges encompass, writing letters and numbers backward, the challenge writing lengthy documents, and struggling with writing the correct spelling of words.

Writing letters, words, or numbers mixed up.

Seven participants expressed their difficulty writing without occasionally mixing letters and numbers around. Daisy said, "In my writing, my letters would be backward, especially if I am hurrying." Likewise, Sunshine explains, "If I am really nervous, I have been known to write backward." Collected data from observations corroborates with data collected from interviews showing that participants such as Annette Butcher have difficulty transposing combinations of letters and numbers from one source onto another.

Spelling difficulties.

After examining the written correspondence of three participants, the researcher was able to triangulate the data collected from the artifacts and the participant's responses from their interview. Spelling challenges such as "we can meet on Wendsday" and "is my classroom alrigt with you" were found in the email correspondence of participants that also indicated they continue to struggle with spelling as an educator. A total of eight participants expressed spelling as a workplace barrier that they experience. Katie T. admitted that she "often misspell words whenever I write." Juan stated, "I know that in my emails I make spelling mistakes all the time." Daisy expressed that she will not volunteer or agree to be the scribe in a group activity during meetings or training because of her struggle with mixing letters up while trying to spell words.

Writing fluency difficulties.

Unilaterally, ten participants reported that writing fluency is a struggle because it takes them longer to write. As a result, workplace tasks that incorporate lengthy writing, and a deadline serves as a barrier. Jody and Daisy expressed that it always takes them longer to write up documents. Also, both John Doe and Juan specified that it takes them longer to write emails. Sunshine stated, "…it takes me longer to write up anything."

Speaking Challenges

Consistent with the experience as a K-12 student, five out of the six participants reported speaking challenges manifesting into a workplace barrier. For example, CJ and Yvan Parks gave examples of seeing the correct page number, but saying the number in reverse or mixed up. "I will tell my students to turn to page 1365…after saying the number wrong four different ways" (Yvan Parks). Likewise, Juan explains, "I have it in my head, but I don't necessarily say and write it the same way." The researcher had the opportunity to observe Juan in the workplace. During the observation, he repeatedly mispronounced a colleague's name confirming his response from the interview.

Social Emotional Challenges

It is important to note that as six of the participants relived their encounters of feeling "dumb," "stupid," "frustrated," and "anxious" as a K-12 student with dyslexia, the researcher observed in-the-moment emotion from the participants. In these cases, the behaviors observed were due to uncontrollable emotions. Specifically, tears forming and running down the participant's face, a change of tone and cadence in the voice, a change in body language, and requests to pause were all indications that the social-emotional challenges experienced as a child are real and continue to impact these individuals as adults.

For instance, Annette Butcher shared that "there was a lot of anxiety the first few years of teaching." In the same way, Yvan Parks said, "I still get embarrassed about stuff. I am scared to write emails because I always make mistakes". Additionally, Katie T. explained her feelings in the workplace as being "nerve-racking" because of the perception of others. "I think if everyone understood dyslexia and dysgraphia then I may not be as anxious as I am when it comes down to writing in the workplace" (Katie T.). Surprisingly, John Doe provided an analogy that describes how he stays above water in the high-level position he has in the K-12 system.

> I am like a duck on the water. Ducks on top of the water are all cruising along and bouncing with the waves, but underneath the water, the feet are anxiously kicking and frantically trying to stay afloat to get from one place or another. So I just look at it as I am a duck (John Doe).

Cross-Question Themes

The major themes selected from this research study span across research questions one and two. The participants spoke of reading, writing, speaking, and social-emotional challenges in question one that focused on their experiences as a K-12 student. Likewise, the participants responded to question two describing workplace barriers as K-12 educators in the same challenging areas. Table 8 displays each cross-question theme (C-QT) that resonates with the participants as students and as educators. The researcher identified the C-QT later on in the data collection process. By adding the C-QT code to data that links the participant's experience as a K-12 student with the reported experiences faced as a K-12 educator, the researcher was able to implement the selective coding procedure. This process described by Corbin and Strauss (2006) allowed a seamless integration of the data gathered and connected it to the research concepts described throughout the study.

Table 8

Cross-Question Themes (C-QT)

Major Themes	N	n	Supporting Quote
Reading Challenges			*"School was grueling because my reading was so choppy and difficult for me." (C.J.)*
As a K-12 Student	13	75	
As a K-12 Educator	9	31	*"I struggle sometimes reading aloud to my class." (Yvan Parks)*
Writing Challenges			*"Verbally, I could spell correctly, but when writing, I couldn't spell it correctly." (Katie T.)*
As a K-12 Student	8	31	
As a K-12 Educator	14	66	*"Writing on the board, when I get stressed or in a hurry, I will literally write backward." (Daisy)*
Speaking Challenges			*"When I spoke to read aloud the words came out differently." (Johnny Defacto)*
As a K-12 Student	6	14	
As a K-12 Educator	5	8	*"...I think of what I want to say; it gets all mixed up, and then my brain has to straighten those words out so that I can respond." (Face)*
Social Emotional Challenges			*"There were many tearful nights." (Daisy) "I always felt bad about myself because I read at such a slow pace."(John Doe)*
As a K-12 Student	14	108	
As a K-12 Educator	14	39	*"If I had errors in the email I sent, I would fall apart and cry because I would be so embarrassed." (Cecilia Rodgers)*

Note. N = number of participants and n = number of times referenced.

Research Question 3

How do educators with dyslexia overcome workplace barriers as analyzed by principle guidelines of UDL in the areas of recruiting interest, sustaining effort & persistence, and self-regulation?

Table 9

Question Three Coded Data

Major Theme & Code Guiding Question (CGS)	Minor Themes
Recruiting Interest	My love for students (n=11)
"I am motivated by_____."	My love for teaching (n=10)
	My love for the subject-matter (n=9)
	The motivation of an educator (n=16)
	My ability to show students they can overcome like me (n=21)
Sustaining Effort & Persistence	Being transparent with students (n=15)
"I endure by_____."	Being transparent with everyone (n=8)
Self-Regulation	Asking others for help (n=23)
"I self-monitor by_____."	Designating extra time (n=10)
	Using technology (n=29)

Note. Note. n=number of times referenced from data collected

Recruiting Interest

{CGS-"I am motivated by _____."}

There were 68 references made during the interview of factors that motivates and recruits interest for the participant to continue being an educator despite the workplace barriers they encounter. As seen in Table 9, five minor codes complete the related CGS. Jody proclaimed, "I

am motivated to overcome my workplace barriers because of the students." Conversely, Annette Butcher stated, "I thoroughly enjoy sharing knowledge. That is what teaching is about". Similarly, Yvan Parks shared that she loves the English subject-matter which motivates her. Additionally, Katie T. responded that she is "inspired by other educators." Another motivation was described by Annette Butcher that she can share her struggle with students, how she overcomes those struggles and sets expectations for them to do the same.

Sustaining Effort & Persistence

{CGS-"I endure by_____."}

A total of 30 references were made about how participants sustain effort and persistence to overcome the workplace barriers they encounter due to having dyslexia. Two minor themes surfaced as participants responded to how they endure conquering challenges that face them as educators. For example, Daisy said, "I am transparent, and that is another way I overcome workplace barriers. Honesty is a factor that keeps me going and working". To elaborate, Yvan Parks explained, "I am honest and tell them 'guys I am dyslexic so let's see if I can read this today.' I have to be transparent with my students because I make mistakes even to this day".

Self-Regulation

{CGS-"I self-monitor by _____."}

Self-Regulation is the third guideline under the multiple means of engagement principle. There were 90 references made indicating that all 14 participants engage in self-monitoring techniques to overcome workplace barriers. Asking others for help, taking extra time outside of work hours to complete tasks, and using technology are the three minor themes coded from interview and observation data. Juan openly admitted that he is "not afraid to ask a colleague at work to help write up a letter." Face explained how she goes "to work at 6:00 a.m. to get the

tasks that are harder…like writing Individual Education Plans done on time". Lastly, Jody shared, "I use technology such as word processor for spell checking, a dictionary on my phone, and the recorder for verbal information I receive." Participants reflected on the ways they overcome challenges through self-monitoring and self-advocacy.

Strengths-based Approach

For the purpose of this study, the strengths-based approach is a theoretical perspective focusing on moving from deficits to strengths. Participants demonstrated their ability to be aware of their challenges and focus on the use of their strengths to increase their capacity for success. There were 53 references made suggesting that participants overcome workplace barriers by focusing and using their strengths.

Focus on strengths to overcome (n=27).

Annette Butcher focuses on her strengths by turning what is perceived as a negative into a positive. "I turn it into a positive and say 'wow I can read backward.' Turning it into a positive and not a negative keeps me going." Similarly, CJ explained, "It is the good part of my dyslexia…seeing the whole beginning and end and then filling in the details quickly to solve the problem because I have read forward and backward my whole life."

Uses strengths to overcome (n=24).

Participants described using strengths such as communication, memory, creativity, being determined, mental agility, and being a visual learner to overcome workplace barriers. For example, Katie T. responded, "my determination pushes me not just to do my best, but to be the best." Face explains that she is a "great sales agent and teaching is like sales. You got to get the students to buy what you are selling".

Summary

This social constructionist inquiry study generated an in-depth look at the lived experiences of 14 educators with dyslexia through interviews and supporting data from observations and a collection of artifacts. Each interview captured details of diverse experiences that constructed into a reality of living with dyslexia within the social dynamics of the K-12 environment. The uniformed layout of data included vivid descriptions, picturesque quotations, and accurate accounts transcribed and observed. This chapter displayed the intimate data of the challenges, strengths, and triumphs of educators growing up with dyslexia as students and now enduring workplace barriers despite the challenges of dyslexia. The analysis of the data serves as a road map leading the researcher towards the final destination of this research journey.

Chapter V offers a discussion of conclusions based on the major findings and associated recommendations. In the final chapter, the researcher also presents unexpected findings and implications for future action and suggestions for further research. Lastly, concluding remarks and reflections are presented to illuminate the connection between the research study and the researcher.

CHAPTER V: FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

"I did not choose this journey, but rather this journey chose me. When I learned, my son has dyslexia this journey began. I have been inspired by the participants of this study. These educators have shown me that like them, my son has been chosen for greatness. Therefore, the journey continues…" ~Kathryn Taylor, Educator & Mom of a son with dyslexia

Introduction

This constructive inquiry study has arrived at its final destination and includes a brief summary beginning with an overview of the problem and moves on to feature the purpose of the study, research questions, methods, population, and sample. Included, is a synopsis of the results collected from interviews, a discussion on how the researcher used supplemental data from observations, and a review of artifacts to triangulate the data. Next, a reveal of the major findings coupled with unexpected findings drives the researcher's conclusions based on the examination of the literature and results of this research. In brief, the researcher articulates implications of the study and shares recommendations for further research. Lastly, an offering of closing remarks and reflections regarding the research study concludes this chapter.

Overview of the Problem

The central problem addressed in this study stems from statistical data that indicates many individuals are suffering from reading deficiencies in school, work, and social settings due to dyslexia (Shaywitz et al., 2002; Mather & Wendling, 2012; Shaywitz, 2003). As a result, a new state law was recently adopted requiring school districts to comply with program guidelines to develop a systematic process for identifying, assessing, and educating students with dyslexia (AB1369, 2015). Meanwhile, educational stakeholders continue to draw upon current research to influence decisions and create policies. While this is the case, there seem to be limited studies enlightening ways individuals with dyslexia overcome the challenges and increase their capacity for success in school and the workplace. Therefore, a deeper look into the ways adults with

dyslexia working in the field of education overcome workplace challenges, and generate positive outcomes for students is warranted. In sum, an exploration of how educators experiencing barriers of dyslexia utilize multiple means of resources to produce positive results in the workplace would add to the literary works available for educational practitioners and lawmakers to use.

Purpose Statement

The purpose of this qualitative study was to explore experiences of educators with dyslexia, identify barriers experienced as a K-12 student and the means by which they overcome workplace barriers encountered working in K-12 schools. This research contributes to the body of knowledge by analyzing the study through the lens of three guidelines under the Universal Design for Learning (UDL) principle, "multiple means of engagement."

Research Questions

This qualitative study used a constructive inquiry research design to explore the following three research questions:

1. What are the lived experiences of educators with dyslexia as a K-12 student?
2. What are the barriers encountered by educators with dyslexia working in K-12 schools?
3. How do educators with dyslexia overcome workplace barriers as analyzed by principle guidelines of UDL in the areas of recruiting interest, sustaining effort & persistence, and self-regulation?

Research Methods

A social constructionist inquiry study was conducted to capture diverse experiences of adults with dyslexia working in the field of education and gain a more profound insight into the ways they overcome barriers. This exploratory inquiry method was designed to "construct

reality" by interpreting a group of educator's perceptions based on their experiences and social dynamics living with dyslexia. Therefore, this method developed the concept that "multiple perceptions can exist under the same experiences," and the experiences of each participant are what constituted an interpretation of the reality (Patton, 2015).

The clear perspective of these educators who experience what Mather and Wendling (2012) describe as learning and social barriers was gathered and studied to develop a social reality that explores the research questions. The primary data collection spawned from scripted interview questions. A supplementary gathering of data from observations and artifacts functioned as patches to reinforce gaps in the responses generated from the face-to-face interviews.

Population

The population for this study consists of adults either formally diagnosed or self-identified as having dyslexia with experience working in the state of California as an educator. For the purpose of this study, an educator is an individual employed by a school to support the process of educating students in various academic areas. The population was narrowed to K-12 educators with dyslexia between the ages of twenty-five and sixty-five working in Los Angeles County under the jurisdiction of the Antelope Valley Special Education Local Planning Area (AVSELPA). There were ten districts identified in the Los Angeles County under the jurisdiction of the Antelope Valley SELPA. The districts were reflective of the total population of K-12 organizations in the state of California.

Sample

The researcher used an "availability of sampling frame" (Creswell, 2014) to select "potential respondents in the population" (p. 158). Hence, 14 educators with dyslexia

participated in the study. Each participant's interview served as the primary source of data. Also, some observations and artifact review supplement the study allowing the researcher to use the strategy of triangulation of data to increase the validity of the findings (Creswell, 2014). This number of participants provided depth and breadth to the study.

Major Findings

This study involved an analysis of the lived experiences of educators either formally identified or self-identified as having dyslexia. Within the time frame of the study, all 14 participants were employed as K-12 educators. The researcher was able to gather their shared realities through stories shared about their experiences as K-12 students. The participants described the workplace barriers that challenge their work productivity. Also, the educators' stories gave insight into the ways they overcome workplace barriers.

Finding 1: Educators with Dyslexia Experienced Reading Challenges as a K-12 Student and as a Workplace Barrier

The data collected from one-on-one interviews demonstrated that educators with dyslexia experienced reading challenges as students in the K-12 environment. Participants described reading as laborious and admitted that it took them longer to read. In the same way, participants described their reading challenges in the workplace. Reading emails, work memos, and textbook content aloud continues to be a challenge for the K-12 educators with dyslexia participating in this study.

Finding 2: Educators with Dyslexia Experienced Writing Challenges as a K-12 Student and as a Workplace Barrier

Another finding in the research study is that the participants struggled with written language growing up as a K-12 student with dyslexia. For instance, 100% of the participants

reported their writing challenges to be a major workplace barrier that slows down their work productivity. According to data collected from artifact reviews, observational field notes, and interview results writing fluency is difficult because they write letters, numbers, and words backwards or mixed up. The delay in processing time to write down their thoughts makes writing tasks strenuous for the educators with dyslexia in this study.

Finding 3: Educators with Dyslexia Experienced Speaking Challenges as a K-12 Student and as a Workplace Barrier

The next finding of this study reveals speaking challenges reported by more than half of the participants as a K-12 student through interview and observation data. They also reported their speaking challenge is a workplace barrier that impacts their ability to engage in communicative activities like giving clear instructions or delivering a spontaneous oral report. Although educators with dyslexia continue to struggle with speaking challenges as workplace barriers, they compensate as an adult differently than they did as K-12 students. An extended pause before speaking or an occasional deep breath are common characteristics displayed during conversations or oral presentations to prevent stuttering or mispronunciation of words.

Finding 4: Educators with Dyslexia Experienced Social Emotional Challenges as a K-12 Student and as a Workplace Barrier

The data collected from all 14 one-on-one interviews and some observations led to the finding that the participant's social-emotional well-being was greatly impacted growing up and continues to be a barrier in the K-12 workplace. Anxiety, feeling less than others, and frustration are some feelings that surface when the educator with dyslexia struggles with reading, writing, and speaking in the workplace just as it did while they were a student in K-12. The social-emotional challenge is the barrier that impacts these educators most because of the deeply rooted

negative feelings they systemically encountered growing up and while working in the field of education as an individual with dyslexia.

Finding 5: Supports Used by Educators with Dyslexia to Overcome Workplace Barriers Align with the UDL Principle of Engagement

In the final finding, results from interviews and observations illuminate the supports, strategies, and approaches the participant's implement to overcome workplace challenges. Those tactics line up with the three guidelines: recruiting interest, sustaining effort & persistence, and self-regulation. Educators with dyslexia have overcome challenges as K-12 students and continue to dominate (?) over the workplace barriers through motivation, endurance, and self-monitoring.

Unexpected Findings

Emphasized are three substantial surprises encountered in the results of this research study. Each of the unanticipated findings adds depth of insight into the participants' lived experience with dyslexia as a student and an educator. The unexpected findings are relevant and contribute to the research. The researcher gained a broader perspective of the lived experience of these educators growing up with dyslexia and working in the K-12 educational system.

Additional Learning Support

Research suggests various strategies and interventions support individuals with learning disabilities. Subsequently, there are new literary sources that highlight evidence-based practices to support the learning success of students with dyslexia. While the interview questions did not ask about the learning supports provided, 12 participants reported on the additional learning support they received growing up as a K-12 student with dyslexia. For example, tutoring was expressed as an additional support that provided participants with the one-on-one support

necessary to attain the reading and writing skills that were lacking. As a result, the participants admitted that the additional provision received played a pivotal role in their academic success.

Emotional Response

Another unexpected discovery was the intensity of emotion exhibited during the one-on-one interviews. As participants reminisced on some of the challenges they faced growing up and the ways they overcame barriers, there was a burst of emotions that spoke louder than the words they were saying. In those observable moments, the researcher allowed for silence, reflection, and confirmation that each participant was willing to proceed. There was an assertion that their journey did not end there and they had more of their story to share. Unexpectedly, the researcher observed the social-emotional challenge that is described by some researchers as an invisible spirit of defeatism and pain (Nosek, 1997; Shapiro & Rick, 1999; and Moody, 2006). The researcher took the time to gain composure, focus on the task, mindful as the interview proceeded. The stark reality that one out of every ten individuals are diagnosed with dyslexia and could potentially live with the same emotional distress bottled up was an unexpected finding well noted.

Strengths-based Approach

The final surprise finding was the emphasis participants placed on their need to focus and use their strengths to overcome their challenges growing up with dyslexia. Participants reported their strength in math, reading comprehension, communication, and memory benefited them growing up. They explained their ability to use the skill they had to compensate for the deficit they faced. "Compensation learning" is a concept Gladwell (2013) explored and was prevalent in the results of this study. When individuals become aware of their ability and challenge their

self-awareness increases as well as the “compensation learning”. A sense of self-advocacy became the theme as these educators described their strengths and their needs.

Conclusions

Based on the findings of this study, multiple conclusions were established regarding the experience of K-12 educators with dyslexia growing up and overcoming workplace barriers with the use of guiding factors identified by analyzing the three guidelines of the UDL principle of engagement.

Conclusion 1

K-12 educators with dyslexia experienced reading, writing, speaking, and social-emotional barriers growing up as K-12 students and as adults in the workplace.

Research suggests that dyslexia is a permanent condition that presents common barriers which follow the child throughout their adulthood (James and Linda Nuttall, 2013). In comparison, 14 participants spoke on their K-12 experience of reading, writing, speaking, and social-emotional challenges as students with dyslexia. Equally, those same problems resulted in workplace barriers for K-12 educators with dyslexia. Shaywitz et al. (2002) explain dyslexia as a neurobiological deficiency that impairs the reading ability in children and adults. Another essential point made by Mather & Wendling (2012) is the additional areas such as writing, speaking, and listening that are impacted by the neurobiological disorder can impact an individual throughout their lifetime.

According to data from interviews and observations, the participants’ social-emotional challenges stem from the past and current anxiety or embarrassment from slow reading, writing difficulties, misspelling or mispronouncing words. These results compare to previous studies that illuminate the impact of consistent failure, fear of public humiliation, feeling of isolation and

hopelessness that fester into a social-emotional barrier for children and adults (Shaywitz, 1996; Shaywitz, 2003; Nosek, 1997; and Moddy, 2006).

Therefore, K-12 educators with dyslexia experience the same learning and emotional challenges in the workplace as they did growing up as K-12 students. Based on the findings the most common workplace barriers encountered in a K-12 educational environment are:

- Reading long emails, memos, board policies, and textbooks.
- Writing emails, inability to spell correctly, lengthy writing tasks such as the Individual Education Plans, and writing directions on the white board.
- Speaking page numbers mixed up or backward, mispronouncing names and taking a longer pause than most to process the words before speaking them.
- Feeling anxious about reading, writing, or speaking in front of colleagues, embarrassed when spelling mistakes are made in emails, documents, or on the white board, fearing the possibility that others will perceive the mistakes made as unprofessional.

In conclusion, it is vital that the K-12 educational system in California embrace the new assembly bill and make a concerted effort to improve the educational program for students with dyslexia. Dyslexia awareness must be the starting point for program improvement within each school district. The myth that dyslexia only impacts the reading ability will limit the success of any district program designed to support students with dyslexia. Educators and parents must be open and prepared to address the reading, writing, speaking, and social-emotional challenges that face students with this disorder. No student living with this neurobiological disorder should suffer from feelings of defeatism, embarrassment, low self-esteem, or anxiety because of the actions of a teacher that lacks the knowledge and training on dyslexia. The tears that students

with dyslexia shed should be because of their overwhelming delight in their triumph rather than their failure. As evident from the findings of this study, the challenges that K-12 students with dyslexia face manifest into workplace barriers. It is imperative that the steps taken by school districts to comply with AB 1369 begin with the end in mind. The lived experiences in K-12 makes all the difference in the capacity for success for adults living with dyslexia.

Conclusion 2:

Recruiting Interest is one of the key elements to overcoming workplace barriers for K-12 educators with dyslexia.

This guideline of the UDL principle of engagement focuses on restoring the individual's perceived loss of power by recruiting their interest and giving them a sense of purpose (Hall et al., 2012 and Meyers et al., 2014). A sense of purpose encourages the identification of value and relevance in what one does and why they do it. Thus it is the motivating factors that play a major part in an individual choosing to work in an environment that consists of multiple barriers.

As explained by all participants of this study, the motivating factors identified keeps them in the profession where reading, writing, and speaking is required every day. Despite the fact that some of the participants as a children made the proclamation that they would never be a teacher, the sense of purpose, interest, and value working in education motivates them to overcome the workplace challenges they face.

Moreover, the UDL principle of engagement guideline, recruiting interest, is used by K-12 educators with dyslexia to overcome workplace challenges. Based on the findings these participants with dyslexia continue working in education despite the workplace barriers because of these motivating factors:

- Their love for students
- Their love for teaching
- Their love for the subject-matter
- The power to motivate students to overcome as they have overcome
- The motivation from a previous educator

To conclude, motivation is a strong factor that should be used to maintain a level of engagement that will drive an individual past their comfort zone to explore and experience a deeper connection with the content taught or the tasks required in the workplace. Educators should tap into students' interest to lure them into academic and social-emotional success. The earlier an individual learns to identify the source of their motivation, the more successful they will be in valuing the things that are obtainable rather than focusing on what they believe is out of their reach. An educator with dyslexia struggling with workplace barriers benefits from identifying and focusing on those motivating factors that gives them purpose. Motivation serves as the stepping stool that gives individuals with dyslexia a longer reach towards success. Recruiting effort is key to overcoming the barriers of dyslexia.

Conclusion 3:

Sustaining Effort & Persistence is one of the key elements to overcoming workplace barriers for educators with dyslexia.

Research supports the ideology that challenges are necessary to build positive characteristics such as persistence, resiliency, and confidence (Nosek, 1997; Shapiro & Rich, 1999; and Johnson-Harris & Mundschenk, 2014). The sustaining effort and persistence guideline promotes the opportunity to endure challenges to increase one's skills and ability. The

process of problem-solving and endurance exercises strengthen deficits which in turn increases confidence.

Participants reported that they endure workplace difficulties that arise because of their dyslexia by being transparent. Nine of the participants indicated that they are transparent about being dyslexic with the students in their classroom only. The other five participants expressed that they are transparent with everyone. As evidenced, it took great confidence for the participants to divulge their weaknesses to others. As a result, the social-emotional challenges they face as educators do not impact their ability to teach or be an administrator in a K-12 environment. Additionally, the participants of this study told their stories about how they put forth a considerable amount of effort to portray their expertise and demonstrate that even professionals struggle in various areas. Overall, their message to students is that "everyone must persist to improve and become better at what he or she does" (Katie T.).

In conclusion, sustaining effort & persistence is a guiding factor that K-12 educators with dyslexia use to overcome workplace barriers. According to the findings, these educators with dyslexia endure by:

- Being transparent with students only about their dyslexia diagnosis
- Being transparent with everyone about their dyslexia diagnosis

The common factor is that educators with dyslexia endure most when they are open and honest with others. There is a sense of obligation to persevere and role model for students and colleagues. According to the findings, being transparent with students elevated the embarrassment that previously accompanied reading, writing, or speaking challenges. Once the social-emotional challenge is resolved, then the challenge becomes manageable. Hence, there is value in purposeful obstacles embedded within the instructional program for students with

dyslexia. High expectations coupled with rigorous content and a dash of academic and social-emotional supports are great ingredients to increase the endurance of students. Educators with dyslexia that are transparent about the barriers they face and receive support from others are encouraged to sustain the effort to be a better teacher and colleague.

Conclusion 4:

Self-Regulation is one of the key elements to overcoming workplace barriers for educators with dyslexia.

Hall et al. (2012) discuss the importance of strengthening an individual's ability to regulate their learning and emotional needs. Self-regulation is a skill that empowers the individual to reflect on their strengths, weaknesses, and to self-advocate. Self-regulation leads to self-motivation and endurance which are important characteristics to triumph over any obstacle one may face. Conversely, participants reported on the various tools they use to ensure they produce quality work on time without spelling errors.

According to the findings, K-12 educators with dyslexia use the following supports to self-monitor and overcome workplace barriers:

- Use of technology
- Asking others for help
- Allowing extra time to complete work tasks

Educators with dyslexia benefit from the use of software and programs that correct spelling and grammar errors. Useful word processing programs such as spell check and Grammarly are key to educators fulfilling their responsibilities with professionalism and dignity. Writing is a workplace challenge that can negatively impact an Educator's career.

It is important that technological advancements be made available for all educators in the workplace. Apple devices offer accessibility options that will read anything on the screen aloud. Many companies like Google and Apple partner with K-12 schools to broaden the path for success in the 21st century. The goal is to cultivate independent learners that are creative, collaborative, effective communicators, and critical thinkers. To be an independent learner, one must be able to self-monitor. The ability to self-monitor is empowering and increases one's self-confidence. The 21st-century learning environment has opened up a world of opportunities for individuals with varying abilities and skills. It is important that K-12 schools embrace technology as a means to improve the learning culture for staff and students.

Conclusion 5:

A strengths-based approach underpins the three guidelines of the UDL principle of engagement used by educators with dyslexia to increase their capacity for success.

Based on the research of O'Hanlon & Rowan (2003) and Lask (2010), the strengths-based approach can enhance an individual's motivation, increase hope, and improve self-esteem in the midst of challenges. Likewise, Clifton & Buckingham (2001) explores the philosophy behind the strengths-based approach as the ability to capitalize on one's strengths and manage around their weakness (pg. 27).

The K-12 educators in this study revealed that they focus and use the skills they excel in to compensate for the areas in which they struggle. For example, those who reported that they experience a processing delay when they attempt to write down thoughts and spell words correctly, also expressed that they are technologically savvy and use that strength to their benefit. Others explained that they are excellent at solving complex problems and contribute that skill to

the school site team. It is the experience of being successful and good at something that promotes self-motivation, sustained effort, and self-improvement.

In conclusion, a strengths-based approach provides a foundation for educators with dyslexia to build on as they use the guiding tools of the UDL principle of engagement. Whether it is their love for teaching, courage to be transparent, or their strategy to have a colleague look over their email before sending; the educator with dyslexia demonstrates a strong sense of self-awareness to know that their challenges do not define them. While in this case, the act of reading, writing, and speaking may continue to be lifelong challenges for individuals with dyslexia. However, educating the individual with a strengths-based approach may drastically reduce the social-emotional barriers that challenge children and adults with dyslexia.

Implications for Action

This section presents the implications of this research and the actions that lawmakers, policymakers in the department of education, the special education planning area (SELPA) and K-12 school district leaders could consider to develop and implement effective programs for individuals with dyslexia. Furthermore, key stakeholders may take heed to the implications and actions to enforce compliance with existing special education laws. Equally important are the actions that educators with dyslexia should consider to minimize workplace barriers and increase their capacity for success.

1. The SELPA in partnership with each district under its jurisdiction should provide professional development on dyslexia awareness with a focus on the strengths and challenges that impact children and adults with dyslexia. The professional development should include all stakeholders such as parents, students, general education and special education teachers, school psychologists, administrators, and other service providers.

This endeavor is to strengthen the support system for K-12 students with dyslexia and increase the supports provided to all other adult stakeholders faced with challenges due to dyslexia.

2. Policy makers such as the Superintendent for the state's department of education should use this study to align program strategies and interventions with the UDL principles network, a scientifically valid framework designed to guide educational practices for students with different learning and social-emotional abilities such as those with dyslexia. The alignment of the UDL principles and program guideline should be provided to districts throughout the state to use as a roadmap towards effective program development for students with dyslexia.
3. The researcher of this study will publish a book revealing the experience of students with dyslexia that journey through life and become an educator with dyslexia. Additionally, memorializing the ways, they triumph over a lifetime of challenges and increase their capacity for success will be a critical component. This book will be used to encourage more individuals with dyslexia to consider education as a career.
4. Educators working with K-12 students should use this research to identify the areas of need and the appropriate support required to minimize learning and social-emotional barriers. Educators will gain a deeper look at the ways teachers motivated and negatively impacted the participants of this study. This study serves the purpose of not only increasing the understanding of dyslexia but limiting the barriers that surface due to the lack of awareness existing in the educational system on the topic.
5. The study should be used as a catalyst to develop a dedicated website for professionals with dyslexia using this study as a guide to bring awareness to the three guidelines:

recruiting interest, sustaining effort & persistence, and self-regulation and how that UDL principle of engagement guidelines increase the capacity for success. Professionals with dyslexia would benefit from a website that contains research such as this study that highlights various ways educators and other successful professionals overcome workplace barriers through a universal design for learning framework and strengths-based approach.

6. Professional Development Coordinators within K-12 school districts should use this study to design training on how dyslexia may manifest itself in the classroom and the multiple means of resources and instructional practices required to address each of the areas of needs found in this study.
7. The Coordinator of Psychological Services within the school districts should draw from this research to assist school psychologists under their leadership gain a deeper understanding of the social-emotional challenges students with dyslexia face and how those challenges become a barrier for them as adults. It is important that K-12 schools address the social-emotional impact of dealing with reading, writing, and speaking challenges as a K-12 student. School psychologists should begin dissecting their assessment protocol and procedures to ensure all suspected areas of needs are adequately identified, assessed, and recommend the least restrictive environment and services to ensure educational benefit for students with dyslexia.
8. It is vital that K-12 school districts implement procedures that identify and assess students with dyslexia using the pattern of strengths and weaknesses model versus the discrepancy model. Dyslexia does not impact an individual's IQ, and often individuals with dyslexia learn to compensate. According to the participants in this study, they

earned passing grades despite the struggle. The discrepancy model relies on failing grades as a primary indicator that a student has a learning disability. According to research, children with dyslexia have often gone undiagnosed simply because they employ coping mechanisms that keep them afloat, they stay under the radar, and at the same time, they are drowning.

9. Parents of children with dyslexia will find this research study to be informative and motivational. This study adds to the body of knowledge on the topic of dyslexia awareness and provides greater insight into the lived experiences of those that struggled in reading and writing but persevered and now teach others how to read and write.
10. The researcher will publish journal articles summarizing the findings and conclusions of the study for publications such as *DYSLEXIA*, *The International Dyslexia Association*, *Information Literacy and Instruction*, *Open Learning*, and *National Center on Universal Design for Learning*. The articles will educate others on the impacts of dyslexia for K-12 students and educate individuals diagnosed or self-identified as having dyslexia.
11. The researcher will reach out to CAST, the developers of UDL, and share the research linking the neurobiological disorder dyslexia to the neuroscientific-based framework UDL. The study shows the effects of UDL to the affective network of the brain. Multiple means of engagement fires up the occipital and parieto temporal (left-rear) parts of the dyslexic brain that has minimal neuron activity. Research suggests that the UDL principle of engagement is designed to spark activity in the same part of the brain that receives minimal neuron activity in brains of individuals with dyslexia. This research study is a viable resource for CAST to support individuals with dyslexia and promote UDL for K-12 and higher education success.

12. Participants in the study expressed their appreciation for the opportunity to share their experiences with someone. Therefore, forming an educators with dyslexia support group would be extremely beneficial. It was reported that the sense of being the only person going through the challenges of dyslexia is a barrier faced every day. It is important that professional adults have an outlet to discuss and learn from others going through the same workplace barriers. An online blog would attract those that want to remain anonymous and the face-to-face or social media Professionals with Dyslexia group would support those who want to connect personally with others.

Recommendations for Further Research

Based on this research study and findings, the following recommendations for further research on the topic of dyslexia and supportive approaches through the lens of the universal design for learning framework are offered:

1. This study explored the lived experiences of K-12 educators with dyslexia and the workplace barriers they encounter in a K-12 educational environment. A future study may investigate the workplace barriers in higher education for college professors with dyslexia and the ways they overcome the challenges of the disorder.
2. The researcher did not distinguish between those participants with a formal diagnosis and those that were self-identified as having dyslexia. There were noticeable differences that should be explored. A future study comparing and contrasting the lived experience of working adults that have been formally identified and those that are self-identified as having dyslexia should be considered. It would be interesting to study the social dynamics of one group compared to the other.
3. This study used Universal Design for Learning (UDL) as a lens to frame the various ways

educators overcome workplace challenges they face due to being dyslexic. A future research recommendation is to conduct an experimental study and apply the principles of UDL to a sample of K-12 students with dyslexia. Taking this framework from research based on to evidence-based practice for individuals with dyslexia should be considered.

4. A future case study on workplace barriers for individuals with dyslexia employed in sectors other than education may benefit lawmakers and employers with providing appropriate supports for good employees that are challenged due to their dyslexia diagnosis.
5. This research was a qualitative study exploring ways 14 educators overcome workplace barriers. Further research that includes a larger sample group either through a mixed method or quantitative study design could enhance the understanding of dyslexia and gain more knowledge on the multiple ways adults with dyslexia cope with their diagnosis.
6. Dyslexia was a central variable of this study. A researcher may consider a future study on the impacts of dyscalculia or dysgraphia for K-12 students and K-12 educators. That type of study would increase the awareness of those disorders and benefit those students that live with similar deficits.
7. A final recommendation for further research involves the study of the strengths and gift of dyslexia according to successful individuals diagnosed using their gift to increase their capacity for success. A look at the contributions people with dyslexia make to society could change the deficit thinking surrounding dyslexia into a more positive thinking that values individual differences and abilities.

Concluding Remarks and Reflections

"It is good to have an end to journey towards, but it is the journey that matters, in the end." ~Ursula Le Guin

It is amazing to experience life's expeditions and the development of twist and turns, hills and valleys just to get an individual to the right destination at the right time. Over a year ago, I found out that my youngest son has dyslexia. The news was not easy to accept, and it caused me to stumble right onto the road that has led me here, at the conclusion of this research journey. I have gained a wealth of knowledge on dyslexia and how the science, strengths and challenges, realities and possibilities all surround this disorder.

I have been a special educator for over fifteen years. Through this dissertation journey, I have learned much more about the positive and adverse impacts placed on K-12 students with dyslexia. When they are subjugated to an educational system that lacks the awareness, empathy, and expertise necessary to identify, assess, teach, and support them, the barriers they face become insurmountable. My professional view has been widened to understand that my colleagues may be challenged because of a disorder like dyslexia and my professional duty is to support those members of my team. I have a new perspective on the co-worker that takes longer to read and respond to my extra-long email, or the group member that is insistent about not being the scribe for the group activity in a training. It is important that I appreciate and elevate their strengths to overshadow any weakness they may have.

I have enjoyed all of the scenery traveling this journey. I have experienced authentic emotions and received invaluable knowledge from each participant of this research study. Sharing tears, moments of outrage about a negative childhood experience, and the feeling of warmth as participants spoke of their triumphant experience overcoming the barriers of dyslexia. I have been inspired and encouraged knowing that my son has not been cursed with dyslexia, but

rather chosen to be great because of the successful experiences that he will encounter over a lifetime.

In the meantime, I will take this voyage on to higher heights and serve as a champion for individuals with dyslexia. It is important that educational stakeholders understand that they are the fork in the road for many K-12 students with dyslexia. The positive supports and interventions can send students down a path of success. Whereas, negative attitudes and a lack of interventions and supports can lead students towards the path that is hurtful and damaging to them and the community they live in (Mather & Wendling, 2012). It is imperative that educators receive appropriate training and support to effectively educate students in an environment that meets the needs of all learners through the UDL principles: multiple means of engagement, representation, and action & expression (CAST and Meyers et al. 2014).

In short, this study encourages us to see through the lens of a strengths-based approach which is a perspective that demands a different way of looking at the individual with an endeavor to cultivate their natural abilities and capabilities. It is my hope that this social constructionist inquiry study stirs up energy and expands the mission that has begun in the diaspora of dyslexia awareness and achievement.

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APPENDICES

APPENDIX A

Literature Review Synthesis Matrix

References	Understanding Dyslexia	Characteristics o	Barriers of	Lived Outcomes	Educators w/ Dysl	Laws	UDL-MME	SBA	Methodology
Alm, J., & Andersson, J. (1997).				X					
504 of the Rehabilitation Act of 1973. (1995).				X					
Aniston, J. (2015, January 21).									X
Antelope Valley SELPA. (May 23, 2014).						X			
Assembly Bill No. 1369,	X	X		X					
Beattie, J., Jordan, L., & Algozzine, B. (2006).	X	X							
Bjorklund, M. (2011).		X			X				
Burden, R., & Burdett, J. (2005).		X				X			
Burns, E. (2015).		X		X		X			
California Special Education Reference. (2015).				X		X			
California State Board of Education. (2016).				X					
Camp, D., & Aldridge, J. (2004).							X		
Cartiella, C. (2013, May).							X		
CAST. (2015).					X				
Choate, J. S. (2000).		X	X	X					
Commision on Teacher Credentialing. (2009).	X	X	X	X					
Davis, R. D., & Braun, E. M. (1997).	X	X	X	X					
Eide, B. L., & Eide, F. F. (2011).									
Elliot, J. G., & Grigorenko, E. L. (2014).		X	X						
Flanagan, D. P., & Alfonso, V. C. (2011).		X		X					
Gerber, P., et al. (2001).			X						
Gladwell, M. (2013).	X								
Glazzard & Dale, (2015)						X	X		
Gorn, S. (1998).							X		
Goswami, U. (2008, June).							X		
Griffiths, P.E. (2002, January)						X			
Grossi, T., & Cole, C. M. (2013).						X			
Hall, T. E., Cohen, N., Vue, G., & Ganley, P. (2015).	X	X		X					
Hall, T. E., Meyer, A., & Rose, D. H. (2012).	X			X		X			
Higher Education Opportunity Act,	X					X			
Hill, B. A., & Newman, A. J. (2015, October 26).	X	X	X	X	X	X			
Hornstra, L., et al. (2010).							X		
Horton, K. (2015).	X								
Individuals with Disabilities Education Act	X		X						
International Dyslexia Association. (2012).	X								
Johnson-Harris, K. M., & Mundschenk, N. A. (2014).								X	
Kaderavek, J. N. (2009, October).	X		X						
Kast, M.et al . (2007).								X	
King-Sears, P. (2014).		X	X	X	X				
Krueger, J., & Killham, E. (2007).		X	X	X	X				
Landerl, K., & Moll, K. (2010).		X	X	X					
Lask, T. (2010).					X		X		
Leather, C., et al. (2011, November 1).		X		X					
Leather, C., et al. (2011)		X		X			X	X	
Leinonen, S. et al. (2001).	X	X	X	X		X			
Littky, D., & Grabelle, S. (2004).									X
Logan, J. (2009, April 17).							X		
Logan, J. (2009).								X	
Mather, N., & Wendling, B. J. (2012).		X		X	X				
McMillan, J. H., & Schumacher, S. (2010).	X	X	X	X	X				
Meyer, A., Rose, D. H., & Gordon, D. (2014).	X					X			
Min, T. (2011).	X			X					
Moody, S. (2006).							X		
Morgan & Rooney, (1997	X	X	X	X					
Morgan, E., & Klein, C. (2000).			X						
National Assessment of Educational Progress. (2015)						X			
National Center for Education Statistics. (2016).		X	X	X	X				
National Center on Universal Design for Learning website. (2012).	X	X	X						
National Institute of Child Health & Human Development. (2000).	X	X	X				X		
Nolet, V., & Mclaughlin, M. J. (2000).								X	
Norlin, J. W. (2010).									X
Nosek, K. (1997).						X			
Nugent, M. (2007).						X			
Nuttall, J., & Nuttall, L. (2013).	X	X	X						
O'Hanlon, B., & Rowan, T. (2003).		X	X	X	X				
Patton, M. Q. (2015).									X

References	Understanding Dyslexia	Characteristics o	Barriers of	Lived Outcomes	Educators w/ Dysl	Laws	UDL-MME	SBA	Methodology
PL 94-142, 94-142 Public Law § et seq. (1975).							X		
Reid, G. (2005). Richardson, J. (2016).								X	
Riddick, B., Sterling, C., Farmer, M., & Morgan, S. (1999, December).			X	X					
Roberts, C. M. (2010).							X		
Rose, D. H., Meyer, A., Strangman, N., & Rappolt, G. (2002).							X		
Saldana, J. (2012)		X	X	X					
Saleebey, D. (2006).	X	X	X	X					
Scott, M. E., & Scherman, A. (1992, September).	X	X	X	X					
Scott, S. S., Mcguire, J. M., & Shaw, S. F. (2003, November/December)	X	X	X	X					
Shade, B. J., Kelly, C., & Oberg, M. (1997).	X	X							
Shapiro, J., & Rich, R. (1999).						X			
Shaywitz, B. A.,ET AL. (2002).									
Shaywitz, S. (2003).	X	X	X	X	X				
Shaywitz, S. E. (1996, November).						X			
Strauss, A. & Corbin, J. (2008)					X				
Tamboer, P., Scholte, H. S., & Vorst, H. C. (2015, April 24).									X
U.S. Department of Education. (2007).									X
UDL Guidelines Version 2.0. (2011).									X
Understood: for learning and attention issues. (2014).					X				
Wadlington, E. M., & Wadlington, P. L. (2005, Spring).							X	X	

APPENDIX B

Letter of Request (Email)

May I schedule a meeting with you?

Hello,

I hope this email finds you well. I know school is back in session and you are very busy, but I would like to meet with you at your earliest convenience. In the very near future, I will embark on a study exploring the lived experiences of educators with dyslexia and how they've overcome the barriers experienced as well as the strategies they use in the workplace to increase their capacity for success. The theoretical framework derives from the Universal Design for Learning (UDL) Principle of Engagement and a Strength Based Approach.

After conducting an extensive literature review, I am excited to investigate and uncover data showing how individuals with dyslexia can overcome learning and social emotional barriers through evidence based practices such as UDL. Through my research, I hope to advance the profession by identifying some strategies that would prove beneficial as all districts move forward in complying with the new law, AB 1369.

According to Brandman University, there are some procedures I must follow and I want to pick your brain regarding was to seeking permission and gain access to educators working within the ten districts under the jurisdiction of the SELPA that are formally or self-identified as having dyslexia.

I will not take too much of your time, but I would definitely like to meet with you in the near future. I appreciate your support and I look forward sitting down with you.

Best Regards,

Kathryn Taylor

APPENDIX C

Formal Request for Agreement Letter

BRANDMAN University Chapman University System

Confirmation Request

October 10, 2016

Dear Superintendent of Schools

I am an educator and a doctoral candidate at Brandman University. I am conducting a study on *exploring the lived experiences of educators with dyslexia learning as a K-12 student and now working in K-12 as an educator.*

I am asking for your assistance by granting me permission to recruit educators within your district to participate in this study. An email has been drafted for the purpose of recruiting educators with dyslexia working in the K-12 educational setting. My recruiting method consist of sending the drafted email through your district's email server as a global correspondence with your approval.

If you agree to afford me this opportunity, then please email me at ktaylor3@mail.brandman.edu . A formal consent to conduct research in the district on district letterhead or through email that includes district information would be greatly appreciated.

Please note that all data collected will be completely confidential. No names will be attached to any notes or records from the interview. All information will remain in locked files accessible only to the researcher. No one will have access to the interview information other than the participants.

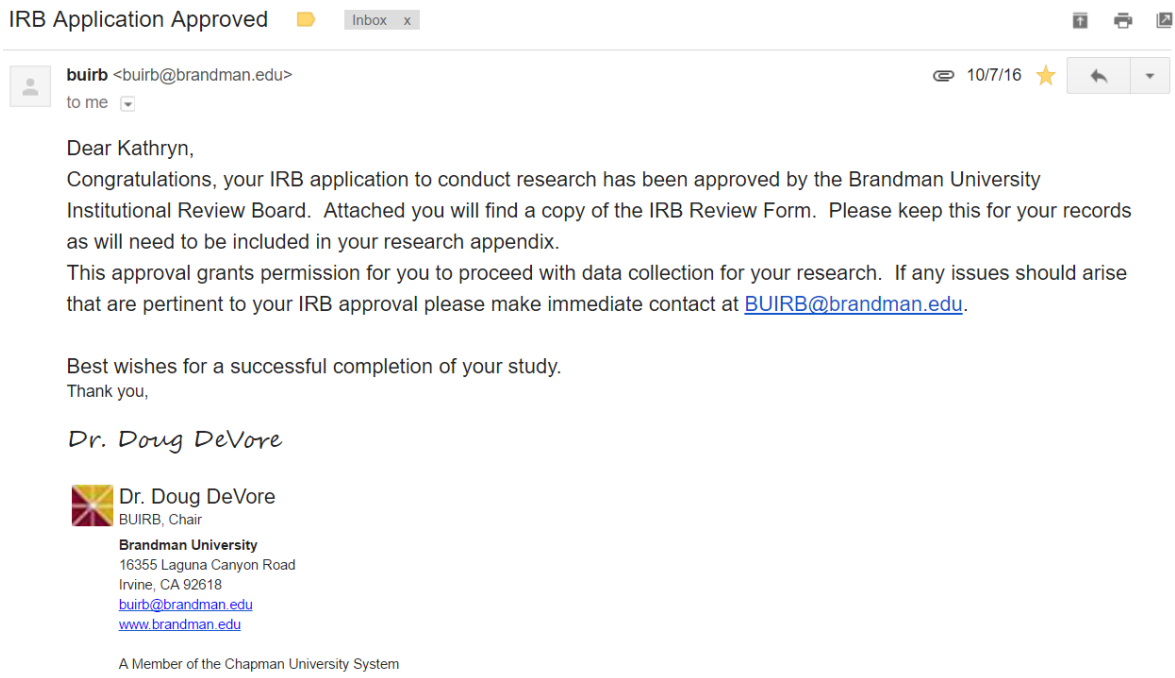
I am available at 661-236-4266 or by email, to answer any questions you may have. Your contribution to this study would be greatly valued.

Sincerely,

Kathryn Taylor
Doctoral Candidate

APPENDIX D

Institutional Review Board (IRB) Approval Letter



IRB Application Approved

Inbox x

buirb <buirb@brandman.edu> 10/7/16

to me

Dear Kathryn,

Congratulations, your IRB application to conduct research has been approved by the Brandman University Institutional Review Board. Attached you will find a copy of the IRB Review Form. Please keep this for your records as will need to be included in your research appendix.

This approval grants permission for you to proceed with data collection for your research. If any issues should arise that are pertinent to your IRB approval please make immediate contact at BUIRB@brandman.edu.

Best wishes for a successful completion of your study.

Thank you,

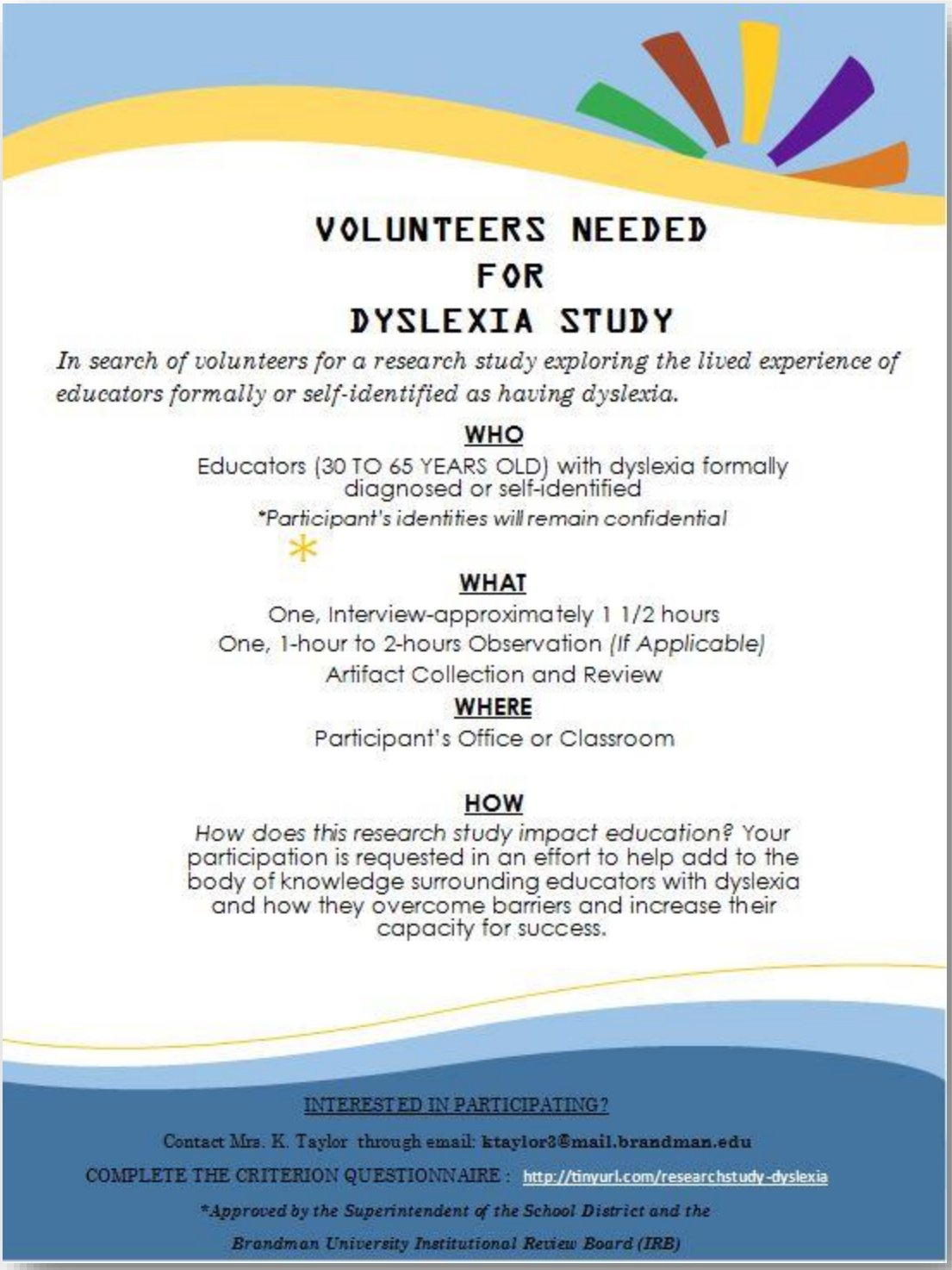
Dr. Doug DeVore

Dr. Doug DeVore
BUIRB, Chair
Brandman University
16355 Laguna Canyon Road
Irvine, CA 92618
buirb@brandman.edu
www.brandman.edu

A Member of the Chapman University System

APPENDIX E

Research Study "Volunteers Needed" Flyer



APPENDIX F

Participant Contact Collection Form

Research Study: Educators with Dyslexia

Complete the form below with information that is most accurate to you. For accommodations and/or support completing this form email Kathryn Taylor at ktaylor3@mail.brandman.edu. Thank you for taking the first step towards contributing valuable insight for the purpose of advancing the study of dyslexia.

* Required

1. Age *
Mark only one oval.
2529
3039
4049
5059
6065
Other:

2. Gender *
Mark only one oval.
Male
Female
Other:

3. Are you currently employed as an educator? *
Mark only one oval.
Yes
No
Other:

4. Select the school district *
Mark only one oval.
ActonAqua
Dulce Unified School District
Antelope Valley Union High School District
Eastside Union School District
Gorman School District
Hughes Elizabeth Lakes Union
Kepple Union School District
Lancaster School District
Palmdale School District
Westside Union School District
Wilsona School District
Other School District Outside of the AV SELPA

5. Did you experience challenges due to dyslexia as a K12 student? *
Mark only one oval.
Yes
No

6. Do you experience workplace challenges as an educator with dyslexia? *
Mark only one oval.
Yes
No

7. Select the follow statement most true to you *
Mark only one oval.
I was formally assessed and identified as having dyslexia.

I self-identified
myself as having dyslexia as an adult.
I believe I have dyslexia because of my challenges, but I am not sure.
I do not struggle with reading, but I do have difficulty with math (dyscalculia).
I do not struggle with reading, but I do have difficulty with written language (dysgraphia).
8. Are you interested in participating in this research study? *
Mark only one oval.
Yes
No
Need more information
Other:
9. First and Last Name *

10. Contact phone numbers *
11. Best time to contact you by phone *
12. Contact email address *
13. Questions or Concerns

APPENDIX G

Blank Consent Form

INFORMATION ABOUT: The lived experiences of educators with dyslexia and the means by which they overcome workplace barriers and increase their capacity for success.

RESPONSIBLE EDUCATIONAL ORGANIZATION:

BRANDMAN UNIVERSITY 16355
LAGUNA CANYON ROAD IRVINE, CA
92618

RESPONSIBLE INVESTIGATOR: Kathryn R. Taylor, Doctoral Candidate

PURPOSE OF STUDY: The purpose of this qualitative study was to explore the lived experiences of educators with dyslexia, identify barriers they experienced as a K-12 student and the means by which they overcome barriers encountered in the K-12 workplace as measured by the UDL principle "multiple means of engagement."

This study will fill in the gap in the research regarding the experiences of educators with dyslexia the means by which they overcome workplace barriers and increase their capacity for success through a multiple means of engagement framework and strengths-based approach. The results of this study may assist districts, county offices of education and school leadership programs in the design of effective program guidelines for students and employees with dyslexia.

By participating in this study I agree to participate in a one-on-one interview. The interview will last no longer than 60 minutes and will be conducted in person. Observations and/or artifact review are optional and can be offered to the investigator if I, the participant, deem necessary to provide further detail of my experience as an educator with dyslexia. Interview will occur during a time convenient for me and the researcher in a location that is warm, inviting, discrete and convenient for me and the investigator. Completion of the interviews and if applicable observations and artifact review will take place in October 2016 through December 2016.

I understand that:

a) There are no known major risks or discomforts associated with this research. There are minimal risks associated with participating in this research. It may be inconvenient to participate in an interview for up to an hour but the researcher will conduct the interviews at a time and place that is convenient.

b) There are no major benefits to the participation in the study. The possible benefit of this study is that input may help add to the research regarding experience of workplace barriers for educators with dyslexia. The findings will be available to me at the conclusion of the study.

c) I understand that I will not be compensated for my participation.

d) Any questions I have concerning my participation in this study will be answered by Kathryn Taylor. She can be reached by email at ktaylor3@mail.brandman.edu or by phone at 661-236-4266.

e) My participation in this research study is voluntary. I understand that I may refuse to participate or may withdraw from this study at any time without any negative consequences. I can also decide not to answer particular questions during the interview if I so choose. Also, the investigator may stop the study at any time.

f) I understand that the study will be audio-recorded, and the recordings will not be used beyond the scope of this project.

g) I understand that the audio recordings will be used to transcribe the interviews. Once the interviews are transcribed, the audio and electronic interview transcripts will be kept for a minimum of five years by the investigator.

h) I understand no information that identifies me will be released without my separate consent and that all identifiable information will be protected to the limits allowed by law. If the study design or the use of the data is to be changed, I will be so informed and my consent re-obtained.

i) I understand that if I have any questions, comments, or concerns about the study or the informed consent process, I may write or call the Office of the Executive Vice Chancellor of Academic Affairs, Brandman University, at 16355 Laguna Canyon Road, Irvine, CA 92618, (949) 341-7641.

I acknowledge that I have received a copy of this form and the "Research Participant's Bill of Rights". I have read the above and understand it and hereby consent to the procedure(s) set forth.

_____ _____

Signature of Participant or Responsible Party Date

_____ _____

Signature of Principal Investigator Date

APPENDIX H

Interview Script & Questions

INDIVIDUAL INTERVIEW GUIDE & QUESTIONS

Time of Interview:	Interviewer:	Signed Consent Form Collected: Yes_____ No_____
Date: Location:	Interviewee: Choice Pseudo Name:	Confidentiality Notice: Yes_____ No_____
Current Position:	Number of Years Working in Education:	Formally Identified_____ Self-Identified_____

Good Morning/Afternoon/Evening

Let me start with saying how grateful I am that you have agreed to allow me to capture your amazing story. I am a doctoral candidate for Brandman University earning an Ed.D in Organizational Leadership. As part of my research I am interviewing educators working in the K-12 educational setting that has either been formally diagnosed or has self-identified themselves as having dyslexia. This interview will take about 60 minutes to complete and will include six questions. I may ask some follow-up questions if needed for further clarification.

Confidentiality is guaranteed, and any information obtained in connection with this study will remain confidential. All data gathered will be reported without reference to you or any particular institution. Through a "Member Checking" process, you will be given the opportunity to verify the accuracy of the transcription of your interview as well as themes/codes developed from your individual data. Lastly, you will be asked to sign a verification statement that the transcription is an accurate depiction of this interview.

Please note, that at any point during the interview, you can choose not to answer a particular questions. If for any reason you desire to stop the interview, feel free to let me know, and the interview will stop immediately. With your permission, I would like to audio record this interview using two devices so that I ensure that I capture our thoughts accurately.

Do you have any questions or concerns before we begin? Awesome/Terrific/Great. Let's begin our journey.

Interview Questions

1. **What was your experience growing up with dyslexia as a student in grades K-5 (elementary school), 6-8 (middle school), and 9-12 (high school)?**
   FOLLOW-UP QUESTION(S) AS NEEDED

   a. When did you come to know that you had a reading disorder?
   b. What was the academic impact of having dyslexia as a K-12 student?
   c. What was the emotional impact of having dyslexia as a K-12 student?
   d. Who made an impact (good or bad) on you as a K-12 student with dyslexia?
   e. How did you cope with reading (learning) differently than other students?

2. **What workplace barriers do you face working in K-12 as an educator with dyslexia?**
   FOLLOW-UP QUESTION(S) AS NEEDED

   a. What does the social emotional impact of working in education as an individual with dyslexia look like for you?
   b. What barrier associated with having dyslexia is the most challenging for you as an educator?
   c. Give a concrete example of a work task that is most difficult for you as an educator with dyslexia.
   d. Where do you face the most challenges as an educator with dyslexia?

3. **What motivates you to work in the field of education and overcome the difficulties of being an educator with dyslexia?**
   FOLLOW-UP QUESTION(S) AS NEEDED

   a. When do you find it more difficult to stay motivated working in this field?
   b. Who inspires you the most to continue excelling in the field of education?
   c. What do you do to stay encouraged working as an educator with dyslexia?

4. **How do you endure and put forth great effort to overcome workplace challenges?**

5. **What self-monitoring skills do you use to maintain professional maintenance?**
   FOLLOW-UP QUESTION(S) AS NEEDED

   d. Who are the people that motivate you to overcome workplace barriers?
   e. What factors make working in the field of education worth the effort for you as an educator with dyslexia?

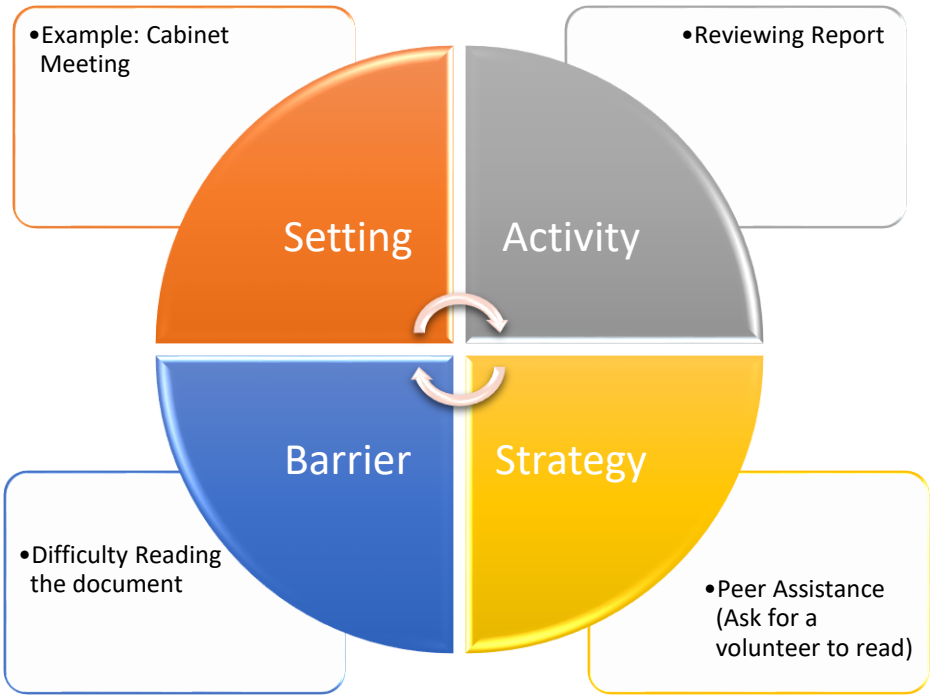
6. **Do you have any other information you would like to add such as artifacts (i.e. memos, emails, etc.) Or an observation opportunity that you would like to share regarding your experience as an educator with dyslexia?**

This concludes our interview. I will send you a copy of the transcription of this interview through email for your feedback and verification of accuracy. Once Brandman University accepts my final research findings, I would be happy to share it with you

APPENDIX I

Observation Field Note Template

Observation Item/Activity	Content	Reflection



APPENDIX J

Artifact Review Template

Artifact Name	Description	Reflection

APPENDIX K

Instrument Alignment Matrix

Research Questions	Interview Questions & Themes
What are the lived experiences of educators with dyslexia as a K-12 student? *POSSIBLE CODES FOR THIS RESEARCH QUESTION*	**1. What was your experience growing up with dyslexia as a student in grades K-5 (elementary school), 6-8 (middle school), and 9-12 (high school)?** *As a K-12 student with dyslexia I experienced_____* *-reading difficulties* *-writing difficulties* *-speaking difficulties* *-anxiety about reading aloud* *-earning average grades* *-fear of other students knowing about my disability* *-feeling stupid/dumb* *-taking longer than most to complete school work* *-getting help from a tutor* *-being assessed for a learning disability* *-being placed in a low performing reading group* *-being diagnosed with dyslexia* *-being hurt by a teacher* *-being pushed/encouraged by parents* *-being inspired by an educator*
What are the barriers encountered by educators with dyslexia working in K-12 schools? *POSSIBLE CODES FOR THIS RESEARCH QUESTION*	**2. What workplace barriers do you face working in K-12 as an educator with dyslexia?** *As a K-12 educator with dyslexia I experience_____.* *-Performance anxiety* *-Difficulty reading lengthy text* *-Difficulty writing emails/IEPs/assignments on the board* *-fear of looking stupid/dumb* *-coming to work early to get a head start* *-hiding my dyslexia from colleagues* *-reading numbers or words backwards* *-writing numbers or words backwards* *-saying numbers or words backwards* *- directionality challenges* *-taking longer than most to complete task*
How do educators with dyslexia overcome workplace barriers as measured by principle guidelines of	3. **What motivates you to work in education and overcome the difficulties of being an educator with dyslexia?** (recruiting interest) *I am motivated by_____.*

UDL in the areas of *recruiting interest, sustaining effort & persistence, and self-regulation*? *POSSIBLE CODES FOR THIS RESEARCH QUESTION* *POSSIBLE CODES FOR THIS RESEARCH QUESTION*	*-my students* *-my love for teaching* *-working with other educators* *-proving that I and the students can overcome despite the disability* *-my love for the subject matter* *-my love for the process of learning* 4. **How do you endure and put forth great effort to overcome workplace challenges?** (sustaining effort & persistence) I endure by _____. *-being transparent about my dyslexia with students* *-being transparent about my dyslexia with everyone* *-focusing on my strengths* 5. **What self-monitoring skills do you use to maintain professional maintenance?** (self-regulation) *I self-regulate by _____.* *-using my strengths* *-asking others for help* *-allowing extra time to complete task* *-using technology (spell checker/grammarly/perla* *-being comfortable with who I am*
6. **Do you have any other information you would like to add such as artifacts (i.e. memos, emails, etc.) Or an observation opportunity that you would like to share regarding your experience as an educator with dyslexia?**	

APPENDIX L

Data Collection Procedural Checklist

STEPS FOR DATA COLLECTION	DETAIL CHECKLIST
10) Contact Special Education Local Planning Agency (SELPA)	☐ Meet with director of the SELPA to present research study ☐ Get placed on Superintendent's Counsel's Meeting Agenda
11) Obtain written permission to recruit and collect data on educators with dyslexia	☐ Present study to all superintendents in the SELPA ☐ Give update on IRB ☐ Give detailed description of the research study benefits and process ☐ Provide clear process for notifying the researcher of the district's approval to be a part of the study
12) Recruit and contact participants **Maintain Confidentiality*	☐ Develop an attractive and highly engaging flyer that includes a URL to a Google form used as a tool to collect interested participants contact information ☐ Follow district's protocol for sending the Flyer globally to all staff members through email ☐ Contact by phone and/or email all perspective candidates that qualify for the study based on the delimitations identified in Chapter I
13) Inform participants of their rights and obtain signed copy of their informed consent form	☐ Schedule interview time with additional 10 minutes to go over consent form, confidentiality, and procedures ☐ Answer any questions ☐ Ensure participants have a signed copy
14) Follow the interview script	☐ Print script and questions on cardstock paper and laminate for endurance ☐ Keep a copy of the interview script on Google Docs as well as a pdf in iBooks on the cell phone
15) Conduct Observations	☐ Use the observation field notes template in Google on iPad or iPhone to maintain continuity ☐ Provide a brief reminder of confidentiality and review consent form with the participant ☐ As the observer, note any and all observations relevant to the study ☐ Take advantage of any invitation to participate in the activity to gain a deeper understanding of participant's experience in the workplace
16) Collect Artifacts	☐ Use the observation field notes template in Google on iPad or iPhone to maintain continuity ☐ Provide a brief reminder of confidentiality and

	review consent form with the participant
17) Member Checking	Confirm participant's willingness to meet again to go over themes/codes developed and their individual transcribed interview Allow each participant the opportunity to verify accuracy of the transcription and codes developed as a result of their interview, observation or artifact review (if applicable) Secure participants signature agreeing to verification statement