The Perceptions of Dyslexia Interventionist Culturally Responsive Teaching to Complement Instructional Practices

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Dedication

I would like to dedicate this accomplishment to my grandfather, Jessie Manley. Your contribution to my life will never be forgotten. The wisdom you have shared, the guidance you have provided, and your constant belief that I can do great things has inspired me to remain constant throughout this journey and committed to the field of education.
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Abstract

**Background:** Dyslexia is neurobiological in origin and impedes the development of accurate and/or fluent word reading (Fletcher, 2009). Research completed by the Yale Center for Dyslexia and Creativity reports that dyslexia affects 15-20% of the population. As we consider the number of individuals affected by dyslexia, we must consider how culturally responsive teaching can serve as a conduit to support the remediation of dyslexia. Dyslexia instruction and culturally responsive teaching require explicit teaching practices that prompt the brain to access working memory and make metacognitive connections to improve reading skills. Dyslexia affects students of all races, ethnicities, and socioeconomic status; therefore, exploring how culturally responsive teaching can complement dyslexia instruction is significant. **Purpose:** This study aimed to examine and better understand the effects of providing dyslexia interventionists with professional development on using culturally responsive teaching to complement dyslexia instruction among elementary school students. **Question:** What are the perceptions of dyslexia interventionists toward the use of culturally responsive teaching to inform instructional practices, before and after professional development on this topic? **Method:** This study employed the conceptual framework of culturally responsive teaching in a qualitative study consisting of five purposefully sampled certified classroom teachers who serve as campus dyslexia interventionists. Data collected for this study occurred in three phases to ensure data credibility. Data were collected by conducting a one-hour focus group interview, individual interviews, and member checking. The three phases of data collection were triangulated to establish credibility. In phase one of data collection, the researcher conducted a focus group interview with semi-structured interview questions,
which allowed each participant to explain their understanding of dyslexia and culturally responsive teaching. In phase two of data collection, each participant engaged in two one-hour professional development sessions on culturally responsive teaching using the Ready for Rigor Framework (2015) presented by a District Dyslexia Specialist. After each professional development session, the researcher individually interviewed participants to identify their perceptions of using culturally responsive teaching to inform their instructional practices. Phase three allowed the researcher to conduct member checking as a data strategy to preserve data integrity. To analyze data, the researcher employed the six steps to qualitative thematic analysis to code, analyze, and report findings. Following the data analysis, a district-level dyslexia specialist reviewed these data sets to determine the absence of researcher bias tendencies. **Findings:** As data from the focus group interview was analyzed, the researcher was able to affirm the participants' knowledge and understanding of dyslexia. However, the participants demonstrated limited knowledge of culturally responsive teaching. After engaging the participants in professional development on culturally responsive teaching and individual interviews, a total of five themes emerged: 1) Dyslexia interventionists felt the implementation of culturally responsive teaching would improve student attentiveness; 2) Professional development on culturally responsive teaching improved dyslexia interventionists' awareness of the significance of the cultures of their students; 3) Dyslexia interventionists recognized the brain connection between CRT and dyslexia; 4) Dyslexia interventionists felt culturally responsive teaching complements instruction provided in dyslexia intervention; 5) Dyslexia interventionists felt culturally responsive teaching would have an influence on future instructional practices. **Conclusion:** The perceptions of dyslexia...
interventionists in this study have shown that professional development on culturally responsive teaching can be used to inform instructional practices related to dyslexia.

*Keywords*: culturally responsive teaching, dyslexia, neurobiological
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Chapter

Introduction

A student who is not a proficient reader may be perceived as having limited intelligence. As an educator, I know this is an untruth; however, it is a perception of many who do not understand the complexity of acquiring reading skills. Mather & Wendling (2012) explains that, “individuals with any level of intelligence may have dyslexia as a result of a compromised reading rate, as may an individual with a mild intellectual ability struggles to learn to read basic sight words.” Dyslexia can affect individuals at any level of intelligence. “Dyslexia is a neurobiological disorder; it can occur in an individual with any level of intelligence or in combination with other disabilities, such as vision and hearing impairments or attention deficit hyperactivity disorder” (Ferrer, Shaywitz, Holahan, Marchione, & Shaywitz, 2010).

Students with low reading difficulty have many experiences that cause a person to shy away from reading opportunities. As an example, a student reading aloud may hear the chuckles of peers or the whispers of those who make correction attempts. The student may ask, "Why can I not read like everyone else?" As a result, when it is time to read in class, the struggling reader may tend to practice task avoidance by asking, "Can I go to the restroom because it's an emergency?" or, "May I go to the nurse because I don't feel well." As a classroom teacher, I have observed many students put forth a tremendous effort to avoid reading tasks. As a result, there is a frequent recurrence of negative behavior, which may result in the teacher removing the student from the instructional setting. Consequently, this provides the struggling reader with relief because of the
diminished chances to be called upon to complete the difficult task of reading. Unfortunately, this is the experience of many students with dyslexia.

Most students diagnosed with dyslexia participate in dyslexia intervention as a part of their daily routine at school to support their reading deficits. As a dyslexia specialist and a previous dyslexia interventionist, I have observed dyslexia intervention being very effective when implemented with consistency and program fidelity to remediate characteristics of dyslexia. However, during the last 12 years of working with students with dyslexia, I have also observed many elementary students with dyslexia fail to make expected progress in the area of reading. Dyslexia intervention is specifically designed to rewire the brain to improve reading skills. For this study, I find it necessary to explore how teachers can employ the cultural experiences and backgrounds of the students they support to gain momentum in the remediation of dyslexia in elementary school students.

In my current role as a District Dyslexia Specialist, I support 16 campus dyslexia specialists who provide dyslexia intervention for 12 campuses within my school district. The climate of each campus varies based on leadership, teachers, students, parents, and the community. Two of the twelve schools I support are Title 1. Each campus is located within suburban neighborhoods and with student mobility rates less than 15%. All these campuses have diverse student populations with a variance of economic status, which varies from low to high income. The level of education parents has acquired ranges from high school graduate to postgraduate. The dynamics of each of the schools are very different; however, one attribute remains the same: dyslexia intervention is being
delivered using the same evidenced-based intervention programs, systematic delivery, and progress monitoring tools.

As a part of my weekly responsibilities, I attend 504 and Admission, Review, and Dismissal (ARD) meetings to support campus specialists as they discuss student progress, concerns, and other issues that may be impacting student performance. During these meetings, I have observed parents, teachers, and administrators attentively listen to what the dyslexia interventionist shares regarding the lack of student progress. However, probing questions are rarely asked to explore why a student is not attaining instructional goals or making progress in the dyslexia intervention program. The impact of a teacher’s knowledge of students’ cultural backgrounds and experiences would be beneficial to consider as we glean through data to determine what is impeding a student’s progress.

Overall, I find that campus committees accept minimal or delayed improvement as a result of the condition of dyslexia. As students matriculate through their academic careers, dyslexia intervention continues to be provided, implementing the same practices and reading gaps become more extensive.

Moreover, we systematically meet to discuss why our students are not making the expected or desired progress. Often this discussion leads to continued instruction producing the same results or a request to explore if the student has an additional learning disability. I have observed campus dyslexia specialists identify what deficits students are exhibiting, but rarely have I found a systemic process that includes considerations for culturally responsive teaching practices. Could this be attributed to dyslexia specialists being culturally impaired or students being cognitively impaired? I believe this is a question worth being explored to ensure instructional practices are equitable and effective.
for all students with dyslexia to gain momentum in acquiring the necessary skills to become functional readers.

The observations I have made as a Dyslexia Interventionist and District Dyslexia Specialist has incited my interest in providing professional development on culturally responsive teaching practices to dyslexia interventionist that will support the remediation of dyslexia in elementary students. Dyslexia remediation requires a structured and systematic approach to reading instruction. “A teacher is continuously delivering the necessary knowledge while at the same time working hard to ensure that it is accompanied by a “hook” that she thinks will be meaningful to the child” (Shaywitz, 2003). I view professional development on culturally responsiveness as an avenue to provide dyslexia teachers with a “hook” to complement the explicit and systematic instruction required for effective dyslexia intervention. The “hook” equates to an instructional approach a teacher would design and deliver to engage the learner. Kozleski (2010) states, “considering how to approach curriculum and incorporating multiple paradigms in the way curriculum is delivered and experienced is an important part of culturally responsive teaching” (p.3).

As a result of my experiences, I have developed a passion for seeking out ways to assist teachers in diminishing the academic gaps in reading between elementary school students with dyslexia and their nondisabled peers. I believe the first necessary step to pursue my efforts in closing the achievement gap is equipping dyslexia interventionists with professional development on culturally responsive teaching practices to support the remediation of dyslexia. Culturally responsive teaching can serve as a conduit for
students to internalize and apply reading skills taught in dyslexia intervention. Culturally relevant teachers utilize culture as a vehicle for learning (Ladson-Billings, 1995).

**Statement of the Problem**

In 2007, the National Assessment of Educational Progress (Cheesman & De Pry, 2010) found that “nationally, approximately 40% of all fourth-grade students lack even the most basic reading skills”. Additionally, Cheesman and De Pry (2010) share that white students averaged 27, 26, and 24 points higher than African American, Hispanic American, and American Indian / Alaskan Native students, respectively, but one point lower than Asian-American/Pacific Islander students. The reading performance for both demographics remained the same for 2015 and 2017 for students in 4th and 8th grades.

The report does not provide data to compare the reading performance of students with dyslexia; however, the reading gap presented in the National Assessment of Education Progress (2017) report is very concerning. Based on data retrieved from the National Achievement of Educational Progress (2017), there is a significant gap in reading performance between reading Black and White students. In 2015, the NAEP reported that Black students in 4th grade scored at 206 in comparison to White students, which scored 232. Additionally, NAEP, 2015 reported that Black 8th grade students scored 249, and White students scored 275. Based on the data provided by the National Assessment of Education Progress (2017), there was not a significant change in reading performance of Black students compared to White students. This data alludes to an instructional problem as it relates to reading practices within our public-school system. “The persistence of academic achievement gaps between and among socioeconomic classes and government-defined racial groups in the United States has perplexed
educators for decades” (McIntyre & Hulan, 2013). Data gleaned from the NAEP presents a strong argument for exploring how culturally responsive teaching can better inform our approaches to reading instruction.

**Conceptual Framework for the Study**

In considering the appropriate conceptual framework for this study, the critical literacy theory emerged because it employs the practice of a reader’s understanding and reflects on inequalities and social injustices. Additionally, the transactional theory emerged due to this theory asserts that the readers and the text work in concert to formulate meaning. Both critical literacy theory and transactional theory support the comprehension component of reading; however, they both fail to demonstrate how to make connections with students before becoming fluent readers. This led to the theory of culturally responsive teaching, which uses a student’s cultural frame of reference as a holistic approach to make connections with students and deliver instruction in a way that is meaningful for the teacher and the student. As such, culturally responsive teaching will serve as the conceptual lens for this study.

**Culturally Responsive Teaching**

“Culturally responsive teaching recognizes the importance of including students’ cultural references in all aspects of learning” (Ladson-Billings, 1994, p.161). Referencing a student’s culture or adding their culture in instructional practices makes learning relevant and embeds inclusiveness in the learning environment. Culturally responsive teaching provides students with a point of reference as they seek to understand classroom instruction. This pedagogical approach lends itself to teachers to make connections within the classroom environment, which consequently extends the depth of
different ways of knowing and engages students from non-dominant cultures in
demonstrating their proficiencies in language usage, grammar, mathematical knowledge,
and other tools they use to navigate their environment” (p. 5). Gollnick & Chinn (2004)
further adds “culturally responsive teaching can be considered one way to meet the needs
of all learners, a core multicultural principle.”

As educators, we are on a continuous journey to explore and implement ways to
yield a successful outcome for students. Complementing dyslexia intervention with CRT
encourages students through designing instruction, which allows more opportunity for
reading instruction to be internalized and solidified through relevant teaching. Engaging
students with culturally responsive teaching strategies will enable them to see themselves
as significant stakeholders in their education and take ownership of their learning.
“Culturally responsive teachers understand that their students’ success will lead to an
improved quality of life” (Cheeseman & De Pry, 2010).

Furthermore, culturally responsive teaching acknowledges the differences
between how diverse students learn by attending to the overall needs of students.
Typically, in the instructional setting, we are focused on academic performance with an
emphasis on test scores and meeting local and state academic standards. However, Gay
(2018) explains that "academic outcomes for ethnically and culturally diverse students
should include more than cognitive performances in academic subjects and standardized
test scores" (p.15). I find this to be very significant to working with students with
challenges in reading due to their deficits in cognitive processes as it concerns the
acquisition of foundational reading skills. The emphasis on academic skills without the
integration of an approach to successfully remediate reading skills will always place this group of students at a disadvantage.

**Purpose of the Study**

The remediation of dyslexia generally occurs through an explicit, systematic, multisensory approach to teaching. The method used to teach students with dyslexia is research-based; however, it is very routine, which delivers a "one size fits all" approach to providing instruction for students with dyslexia. The purpose of this study is to examine and better understand the effects of providing dyslexia interventionists with professional development on using culturally responsive teaching to complement the remediation of dyslexia in elementary school students. The implementation of CRT by dyslexia interventionists will allow them to reflect on how embedding the culture of their students’ can positively impact the instructional environment. “The emphasis is on teachers revealing and analyzing how their cultural values, assumptions, and beliefs shape their behaviors in educational settings, as well as determining ways to minimize negative effects of these influences” (Gay, 2002, p. 619). Additionally, culturally responsive teaching professional development will be implemented in this study to provide an extension to dyslexia instruction for students to internalize, apply, and to create relevance to what they are learning.

**Research Question**

This study will answer the following question: What are the perceptions of dyslexia interventionists toward the use of culturally responsive teaching to inform instructional practices before and after professional development on this topic?
Definition of Terms

**Culturally Responsive Teaching** uses cultural knowledge, prior experiences, frames of reference and performance styles of ethnically diverse students to make learning encounters more relevant and effective for them” (Gay, 2018, p. 36).

**Decoding** is the application letter-sound relationships to pronounce words

**Encoding** is the application of grapheme and phoneme correspondence to spell words

**Dyslexia** is a specific learning disability that is neurobiological in origin. It is characterized by difficulties with accurate and/or 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 in relation to other cognitive abilities and the provision of effective classroom instruction” (International Dyslexia Association, 2012).

**Explicit instruction** is “an approach that involves direct instruction; the teacher demonstrates the task, provides guided practice immediate feedback, corrective feedback, before the student attempts the task independently” (Mather & Wendling, 2012).

**Multisensory teaching methods** refers to instructional methods that use multiple senses to teach content.

**Phonological Awareness** is the awareness and the manipulation of sounds within words

**Remediation** is the process of providing relief or a solution for a condition.

**Significance of the Study**

Research completed by the Yale Center for Dyslexia and Creativity shares that dyslexia affects 15-20% of the population. The International Dyslexia Association (2017) further supports this research by sharing, as many as 15–20% of the population as a
whole has some of the symptoms of dyslexia, including slow or inaccurate reading, poor spelling, poor writing, or mixing up similar words. In addition to this statistic, the U.S Department of Education (as cited in Mather & Wendling, 2012) found reading is the primary problem for approximately 80 percent of the individuals identified as having a learning disability. “Since reading disabilities is estimated to comprise at least 80 percent of all learning disabilities, we can infer that about 3.5 percent of the school population or slightly more than 2 million children are receiving special education services for a reading disability” (Shaywitz, 2012, p. 29). As we consider the number of students who have a reading disability, we must also reflect on instructional practices, which may serve as an avenue to improve reading skills.

In addition to students with dyslexia facing the difficulty of acquiring the life skills of reading, writing, and spelling, they also grapple with socio-emotional conditions. Teachers must be equipped to understand the socio-emotional impact of inadequate reading, writing, and spelling skills. Casserly (2012) pointed out:

While good instruction in how to overcome children’s learning difficulties is crucial in creating positive educational experiences, psychological input of a kind is also imperative; consequently, all schools, mainstream and special, must work on socio-emotional aspects in conjunction with literacy (p. 89).

Some of the consequences include anger, anxiety, low self-esteem, minimal motivation, and depression. These consequences are intensified for a student with dyslexia because their challenges in reading are beyond their control. As we bring more awareness to the socio-emotional challenges of students with dyslexia, teachers must equip themselves with the necessary skills to address the needs of the student.
Summary

Students with dyslexia have difficulty mastering reading skills, which is the opposite of nonimpaired readers. “It is often described as a hidden disability because it was thought to lack visible signs, but dyslexia is hidden only from those who do not have to live with its effects” (Shaywitz, 2003, p.4). Students with dyslexia require a specialized approach to improve reading skills. Instruction is explicitly delivered through systematic and multisensory teaching methods to support the rewiring of the brain pathways. Although dyslexia intervention programs used in public schools are evidence-based, there remains a need to provide cultural references to increase the interest and momentum of the acquisition of reading skills in African American students. Cheesman & De Pry (2010) further explain that “providing literacy instruction that is both culturally responsive and evidenced-based requires an understanding of culture, effective instructional practices, and how the two intersect”. Once a teacher comprehends the significance of embracing and designing culturally responsive instruction, the instructional approach has the potential to intrinsically motivate students to take ownership of their ability to become better readers.

Efforts to close reading gaps require intensive instruction and must be relevant while holistically addressing the academic needs of the students. As we seek to meet the comprehensive needs of the student, we must also consider the use of culturally responsive teaching to accelerate reading improvement. A significant component of culturally responsive teaching is providing students with cultural references to support their learning. CRT creates an avenue for students to make the knowledge their receiving relative to their cultural experiences. As a result, teachers provide opportunities for
students to access content in a meaningful way. Providing dyslexia intervention through the cultural lens of our students enhances the connection between the student and instructional material.
Chapter II

Review of Literature

The purpose of this review of literature is to reveal, discuss and enlighten educators of the gap in research as it relates to culturally responsive teaching and how this approach can complement the remediation of dyslexia for elementary school students. There is an abundance of literature that discusses the positive impact of culturally responsive teaching has general instructional practice. However, the use of CRT to remediate reading deficits in students with dyslexia has received minimal attention. The remediation of dyslexia occurs through students participating in systematic and explicit reading instruction. Instructional delivery of dyslexia intervention is very programmatic due to the need to implement the program with fidelity based on the research used to design the program. Although dyslexia intervention programs must be delivered with fidelity, teachers must have an awareness beyond the instructional content within the classroom. Teachers must be culturally conscious of the student while implementing dyslexia intervention in tandem. The review of the literature will explore (1) dyslexia defined, (2) historical background, (3) characteristics of dyslexia, (4) the significance of culturally responsive teaching, and (5) complementing dyslexia intervention with culturally responsive teaching.

Dyslexia Defined

Before exploring how culturally responsive teaching can complement the remediation of dyslexia, we must first become familiar with what is dyslexia. “The word dyslexia is made up of two different parts: “dys” meaning not or difficult, and “lexia” which
is the meaning words, reading, or language” (Hudson, High & Otaiba, 2007, p.1). One of the most used definitions of dyslexia is:

Dyslexia is a specific learning disability that is neurobiological in origin.

It is characterized by difficulties with accurate and/or 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 in relation to other cognitive abilities and the provision of effective classroom instruction (Lyon, Shaywitz, & Shaywitz, 2003, p. 2).

Mather and Wendling (2012) provide a more simplistic definition of dyslexia, which explains dyslexia as a “neurobiological disorder that causes marked impairment in the development of basic reading and spelling skills.” Although we have an unambiguous definition of dyslexia, there is a research continuum to help us to understand the neurobiological origin of dyslexia. Moats and Eden (2002) further explain dyslexia by sharing, “today’s neuroscientific approaches typically regard dyslexia as an unexpected reading problem that occurs despite normal intelligence, and that is often accompanied by a family history of similar reading, spelling or language problems.”

Based on how dyslexia is defined, dyslexia is a language-based reading disability that originates in the brain. Since we know it originates in the brain, we can safely conclude that dyslexia is not a disability an individual can catch like the common cold or have it temporarily. Mather & Wendling (2012) further explains that “people are born with dyslexia; dyslexia is not acquired.” Additionally, dyslexia can also be genetic. Family history can be an indicator of dyslexia if a student is exhibiting characteristics of dyslexia. Research by Pennington & Lefly, 2001; van Bergen et al., 2011 (as cited in Mather &
Wendling, 2013), between 30% and 50% of children with parents who have dyslexia will develop this disorder.

Dyslexia is a neurobiological difference present at birth but may manifest characteristics at different times in the lives of those that are affected. Shaywitz (2003) explains that based on brain research, dyslexic readers show an under activation of neural pathways in the back of the brain, which consequently makes it difficult for dyslexics to analyze words and transform letters into sound (p. 81). Furthermore, dyslexia is not caused by socioeconomic status or environmental factors; however, they may cause a student to mimic behaviors associated with dyslexia. Studies that have examined language development and the effects of home experiences and socioeconomic status have dramatic effects on cumulative vocabulary development (Hart & Risley, 1995). Minimal exposure to language and inconsistent educational experiences can substantially limit a student’s opportunity for success in reading.

**History of Dyslexia**

The history of dyslexia dates back to the late 1800s. According to Mather and Wendling (2012), in 1872, Sir William Broadbent noted in an autopsy cortical damage in an individual with speech and reading difficulties. Mather & Wendling (2012) shared that in 1875, Adolf Kussmaul applied word blindness to individuals with aphasia who had lost the ability to read. Several neurologists and psychologists who served as pioneers in the evolution of dyslexia. However, Dr. Samuel Gillingham is generally regarded as the father of the study of reading disabilities in the United States (Farrell, 2012). Farrall (2012) further notes Orton’s coining of the term strephosymbolia to describe the twisting of symbols. The twisting of symbols was a characteristic he observed in those who were to
be considered to be poor readers. Orton also found many of the readers were actually quite intelligent (Farrall, 2012). There was not an extensive amount of research to support Orton’s views on readers who displayed symptoms of strephosymbolia. As a solution to support readers who demonstrated symptoms of strephosymbolia, he proposed that these readers receive multisensory and phonics-based reading instruction. Later, Anna Gillingham and Bessie Stillman began to make the linkage of auditory, visual, and kinesthetic the genesis of their work (Farrall, 2012). This work came to be the Orton-Gillingham approach to reading instruction.

Norman Geschwind supported Orton's research connecting dyslexia to a neurobiological disorder. His findings supported the brain lateralization hypothesis proposed by Orton, but further localized brain abnormalities to major areas associated with reading (Mather & Wendling, 2012). During the 1980s, Gilbert Galaburda continued Geschwind's research to identify abnormalities in the brain, which caused difficulties in reading. The study conducted by Galaburda (as cited by Mather & Wendling, 2012), found, unlike Geschwind's study, revealed right planum temporal abnormalities that resulted in a more symmetric pattern of the left and right hemispheres of individuals with dyslexia. The investigation of dyslexia and its neurobiological origin continues to be explored by neurologists and education researchers to support educators and clinical psychologists to diagnose and treat dyslexia properly.

**Federal Legislation on Dyslexia**

In 1962, Samuel A. Kirk was instrumental in persuading the government to develop an operational definition of a learning disability (Farrall, 2012). In 1965, the Elementary and Secondary Education Act (ESEA) amendment was passed, establishing the first federal
grant program for children with disabilities at the local school level; however, it did not include learning disabilities within a spectrum of handicaps (Farrall, 2012). Five years later, Section 504 of the Rehabilitation Act of 1973 (PL 93-112) was enacted, making it illegal to discriminate against those with disabilities and requiring that auxiliary aides be provided to those with impaired speaking, manual or sensory skills (Farrall, 2012). The Education for All Children Act of 1975 (PL 94-142) was enacted, which gave all students the right to free appropriate public education (FAPE). Under the enactment of this law, all children with a specific learning disability were protected.

The Elementary and Secondary Act (ESEA) is currently known as the No Child Left Behind Act of 2001 (NCLB). Mather & Wendling (2012) state, “NCLB set the tone for revisions that occurred in special education laws, such as the Individuals with Disabilities Education Improvement Act of 2004 (IDEA, 2004).” School-age children with disabilities have rights and protections under the Individuals with Disabilities Education Improvement Act of 2004 (P.L. 108-446, IDEA, 2004). Students with dyslexia are protected under the Americans with Disabilities Act or Section 504 of the Rehabilitation Act. Each law provides legal protections to individuals with disabilities. The Americans with Disabilities Act protects under the Individuals with Disabilities Education Improvement Act of 2004 (IDEA). Under IDEA, school districts receive federal funding for students under this protection and must provide students with fair, appropriate public education with an Individualized Education Plan (IEP). IDEA applies to school-age children identified with dyslexia or other disabilities found eligible for special education services. Student eligible for dyslexia services under Section 504 of the Rehabilitation Act slightly differs. Under Section 504, districts do not receive funding; however, students are provided with a
504 Plan that guarantees equal access to education and allows for specific accommodations or modifications.

**Characteristics of Dyslexia**

As previously mentioned, dyslexia is neurobiological in its origin. Dyslexia is a disorder that affects the development of both decoding and encoding (Mather & Wendling, 2012). The primary characteristics of dyslexia include difficulty with reading words in isolation, decoding unfamiliar words, slow or labored oral reading, and difficulty spelling. These characteristics negatively impacts an individual’s ability to read and spell fluently. Mather & Wendling (2012) states that an individual’s inability to decode and encode words is deeply rooted in deficits in phonological and phonemic awareness. Phonological and phonemic awareness is referred to as a deficit in cognitive processes. A phonological deficit directly impacts a student's ability to decode and encode words, real and unfamiliar words, slow and labored oral reading. The secondary consequences of these deficits impede progress in reading comprehension, a reduction of reading experience which limits vocabulary growth, and limited improvement in written language.

The characteristics of dyslexia reach beyond identifying the deficits. We must also explore the strengths related to students with dyslexia. Mather and Wendling (2012) affirmed the fact that reading deficits as it relates to students with dyslexia are unexpected. They further explain that students with dyslexia a higher aptitude in areas that are not affected by the disorder, such as demonstrating a higher performance in math, functional oral language, and listening comprehension. These strengths are unexpected when we consider the student's ability in the area of reading. Furthermore, students with dyslexia typically display average to above-average grade-level performance in the absence of print.
Although all characteristics of dyslexia are relevant, phonological awareness profoundly impacts a student’s ability to acquire reading skills the most. Deficits in phonological awareness are considered to be the root cause of why a student has difficulty in reading. “A phonologic weakness at the lowest level of the language system impairs decoding” (Shaywitz, 2003). The phonologic gap creates continued deficits in reading, resulting in poor reading fluency, vocabulary, and comprehension. The identification of phonological processing, and phonological awareness, is an important factor in learning to read and, in the specific reading difficulties of dyslexia, reflects general consensus in the reading research literature (National Institutes of Child Health and Development, 2000). Goswami (2008) also shares that phonological awareness is essentially the child’s ability to reflect on this implicit knowledge and to make judgments based on it. Kilpatrick shares according to Kilpatrick (2015), every point in a child’s development of word-level reading is affected by phonological awareness skills. Reading is a multifaceted task requiring a number of cognitive and linguistic abilities (Mather & Wendling, 2012). As we consider the complexity of reading, we must first consider the significance of the foundation skills of phonological awareness and the role it plays in diagnosing and treating dyslexia.

Components of Dyslexia Instruction

Reading instruction for students with dyslexia differs from typical reading instruction. Reading instruction for the dyslexic reader must be delivered with great intensity (Shaywitz, 2003, p. 258). Instruction must be explicitly taught focused on literacy skill development. Dyslexia instruction presents an explicit and systematic review and repetition of skills on the reading continuum to rewire the brain to recognize how to process sounds in the English language. Often, this will begin with foundational reading skills on
the reading continuum, such as phonological awareness (PA). PA is the earliest stage of reading development in which students become familiar with how words work. “Phonological awareness is the recognition that oral language can be divided into smaller components, such as sentences into words, words into syllables, and ultimately, into individual phonemes” (Sousa, 2016, p. 95). Poor phonological awareness is the most common cause of poor reading (Kilpatrick, 2016, p. 112). Poor phonological awareness skills are one of the primary deficits in students with dyslexia. Therefore, “it is critical that children with dyslexia receive specific instruction in phonological awareness because this type of teaching makes a difference in reading achievement” (Berninger & Wolfe, 2009).

Dyslexia instruction also includes explicit instruction in sound-symbol association. Sound symbol association is also referred to as the alphabetic principle. The alphabetic principle is the fundamental understanding that phonemes can be converted into graphemes (Mather & Wendling, 2012). Mastery of the alphabetic principle is necessary for students to be able to recognize and spell unfamiliar words. Sousa (2016) explains that for successful reading, the brain must associate the sounds as it has heard during the prereading years of spoken language with the written letters that represent them. This can be very challenging for students with dyslexia and can severely interrupt reading development.

Dyslexia instruction also includes instruction in structural analysis. Structural analysis teaches students to recognize and apply rules for the six syllable types. As students learn these syllable types, they are taught syllable division rules to assist them in properly decoding unfamiliar words. Syllable division rules must be directly taught in relation to the word structure” (Birsh, 2018, p. 26). The six basic syllable types in the English language include the closed syllable, open syllable, vowel-consonant -e, syllables ending with a
consonant -le at the end, -r controlled syllables, and vowel team, digraph, and diphthong syllables. Knowledge of each of the basic syllable types can help a struggling reader know how to pronounce the vowel sounds in words (Mather & Wendling, 2012).

Instruction in orthography and morphology helps students with learning how to spell words and understand the meaning of words. Sousa (2016) defines orthography as the rules of spelling that govern a language. Mastery of orthography can provide students with dyslexia assurance that a word is being spelled or recognized correctly. Instruction in morphology is the study of the smallest of meaningful linguistic units (morphemes) occurs throughout spelling development (Mather & Wendling, 2012). Birsh (2018) further explains that “morphology is the study of how morphemes are combined to form words.” Understanding orthography and morphology support student’s ability to recognize words and their meaning of words in isolation or connected text.

Reading fluency and reading comprehension are additional components of dyslexia instruction. “Reading fluency refers to speech that flows without disruption” (Walpole & Mckenna, 2013). Reading comprehension is the explicit and implicit understanding of various forms of text. Reading fluency and reading comprehension have a reciprocal relationship. Walpole and Mckenna (2013) explain that:

The fluent reader reads aloud with proper phrasing, intonation, and expression (characteristic that are often called prosody). Until a reader achieves fluency, comprehension is apt to suffer, because too much conscious attention must be directed at the word identification and too little attention can be paid to comprehending what is read (p.66).

Therefore, a student’s ability to comprehend is significantly dependent on their ability to read fluently. Dyslexia instruction promotes improvement in these two areas of reading to assist students with dyslexia read with accuracy and for meaning. Although improvement
is possible, it is difficult to remEDIATE deficits in reading fluency (Mather & Wendling, 2012). Due to reading fluency being difficult to remEDIATE in students with dyslexia, students are often provided reading accommodations to support their lack of reading fluency, giving them access to the appropriate text.

Each component of dyslexia instruction is embedded in dyslexia intervention programs to be structured and organized to explicitly and systematically teach skills necessary to address reading deficits. Dyslexia interventionists are trained to implement dyslexia instructional programs with fidelity. Many reading programs have proven to be effective, and all include the components of reading skill development. Dyslexia instructional programs require immediate feedback and continued scaffolding of reading concepts. Student improvement in dyslexia instruction has historically depended upon how early the student has been diagnosed with dyslexia and the students’ level of severity. Dyslexia interventionists’ primary goal is assisting students in becoming skilled readers by providing instruction to dyslexic readers to support reading development properly.

**Culturally Responsive Teaching**

Teaching that uses cultural knowledge, prior experiences, frames of reference, and performance styles of ethnically diverse students to make learning encounters more relevant and effective for them” (Gay, 2018, p.36). Culturally responsive teaching is also defined as an “approach to instruction that responds to the sociocultural context and seeks to integrate the cultural content of the learner in shaping an effective learning environment” (Pang, 2005, p. 336). Educators must pursue a myriad of instructional approaches to improve student achievement, and culturally responsive pedagogical approaches are very significant as we seek to improve academic performance. Gay
(2018) explains that too few teachers have adequate knowledge about how conventional teaching practices reflect European American cultural values. Additionally, Gay (2018) elaborates further to clarify that students, “especially underachieving ones, need to learn knowledge and skills that they can apply in life, and how to meet high standards of academic excellence, rather than wasting time on fanciful notions about cultural diversity” (p.28).

In our schools, many educators design instruction based on what has been deemed acceptable or appropriate, according to those individuals who are the majority. "Within schools, dominant norms and ways of teaching are often based in white culture, mirroring Euro-centric norms. The resulting practice contributes to cultural incongruencies in classrooms and schools, leading students of color to perform below their potential" (Bonner, 2009, p.2). Due to this dominant way of delivering instruction, a disconnect occurs within the classroom, which reflects a problem with the student and not the teacher. “In response to low achievement among groups, inequitable tracking practices are adopted” (Bonner, 2009, p.2). Inequitable tracking practices are a direct result of incongruencies in instruction. The cultural mismatches between how teachers teach and how their students are prepared to learn are increasingly indexed in achievement gaps between children from different ethnic and racial groups and, increasingly, English learners (Aud et al., 2011).

A positive relationship between the teacher and student must occur before relevant learning occurs. The implementation of CRT creates a relationship of trust where students feel less threatened and will take risks with their learning. Students are more receptive to learning from a teacher that has established trust. Trust supports a learning partnership in which Hammond (2015) encourages educators to view this relationship as an equation;
rapport + alliance = cognitive insight. The result of teachers gaining cognitive insight creates opportunities for teachers to make learning relevant and impactful toward success. Furthermore, CRT can reduce the threat students may feel in the learning environment. “As a culturally responsive teacher, you must familiarize yourself with common actions or conditions that make students feel unsafe, even if they cannot articulate this sense of threat” (Hammond, 2015, p. 47).

Brown (2004) explains, “culturally responsive teaching involves purposely responding to the needs of the many culturally and ethnically diverse learners in classrooms. It involves implementing specifically student-oriented instructional processes as well as choosing and delivering ethnically and culturally relevant curricula.” Teachers must be intentional when responding to the needs of all students to make academic improvements. “When educators are intentional about CRT, students recognize this and feel validated. Intention is the starting point for preparing yourself for improving your culturally responsive teaching practice” (Hammond, 2015, p. 55).

**Professional Development**

Professional development means “a comprehensive, sustained, and intensive approach to improving teachers’ and principals’ effectiveness in raising student achievement” (Hirsch, 2009 p. 12). Its implementation influences the beliefs and practices of teachers to produce quality outcomes for students and teachers. “This change process should begin in the professional preparation of teachers with them exposing to critical analysis their attitudes and beliefs about cultural diversity in general and within the context of schooling” (Gay, 2010, p. 144). Professional development geared toward culturally responsive teaching can foster professional growth and cause the teacher to be reflective
regarding how they view their students and how instruction is delivered. Gay (2002) states, “when instructional strategies reflect the cultural values, traits, and socialization of African-American students, their attention spans, quality of academic effort is improved.”

The design and delivery of instruction are based on the belief or teachers' level of comfort with the content. These beliefs trigger our actions toward instructional practices and students an impact on academic achievement. According to Mujis and Reynolds (2015), “teacher behaviors were not only the most significant predictor of student progress over the year but also significantly affected teacher beliefs and self-efficacy, showing their relationship to be reciprocal.” Teacher attitudes, expectations, and actions toward ethnically diverse students are tremendously powerful in determining the quality of the education they receive (Gay, 2002). Gay (2002) further explains that common sense, professional experiences, and research findings tell us that students learn better content that is familiar, has high-interest appeal, is challenging, and is presented in ways that are linked directly to their prior knowledge and ways of knowing.

A study by Guskey (2010) advances the significance of providing professional development as he explains, “high-quality professional development is a central component in nearly every modern proposal for improving education.” Modern education includes educating students from diverse cultures and has diverse needs. Providing educators with high-quality professional development support creating highly effective teachers who can support the needs of all students. Professional development should be ongoing and proven significant to allow educators to evolve as learners and teachers. Darling-Hammond (2011) further supports this thought as she states, “effective
professional development involves teachers both as learners and as teachers and allows them to struggle with the uncertainties that accompany each role.

Typically, teachers engage in professional development or training to deliver instruction based on the norms of instructional practice and to differentiate as needed. However, instructional delivery to diverse students should be a part of the initial instructional design. For this to be effective, teachers familiarize themselves with the different cultural backgrounds of their students. The exploration of culture must be placed at the forefront when designing instruction. Discussions of culture are frequently avoided due to the sensitivity of the topic among many educators. Teacher’s knowledge about and attitudes toward cultural diversity are powerful determinants of learning outcomes for ethnically diverse students (Gay, 2002). The knowledge teachers gain empowers them with, creates more opportunities to design instruction with equitable outcomes. Gay (2010) shares that equity recognizes that all students do not come to learning situations with the same resources and preparation. Therefore, it would benefit the teacher to be equipped with an extensive knowledge base to have the ability to design instruction with equity. Culturally responsive teaching should be a vital part of the knowledge-based they create.

**Culturally Responsive Teaching and Dyslexia Intervention**

The subject of implementing professional development on culturally responsive teaching to support the remediation of dyslexia has received minimal attention. Although there is a gap in research as it relates to a culturally responsive teacher and dyslexia specifically, there is research that discusses reading instruction and culturally responsive teaching. Dyslexia intervention is very prescriptive to meet the needs of a student who has the neurological deficits which prevent a student from processing reading instruction in the
same manner as a nonimpaired reader. The guidance provided to remediate dyslexia has to be delivered systematically, explicitly, and using multisensory methods of delivery.

Similarly, to dyslexia intervention, culturally responsive teaching requires a systematic approach to be successful. A systematic approach to culturally responsive teaching is the perfect catalyst to stimulate the brain’s neuroplasticity so that it grows new brain cells that help students think in more sophisticated ways (Hammond, 2015). Furthermore, Hammond (2015) explains, “cognition and higher-order thinking has always been at the center of culturally responsive teaching, which makes it a natural partner for neuroscience in the classroom.” Dyslexia and culturally responsive teaching are both fueled by understanding neurological processing that supports learning.

Dyslexia intervention requires an instructional approach that will solidify phonological awareness skills to support decoding, encoding, and reading fluency. "Effective reading instruction is responsive to the child's unique needs and to his actions and his behaviors” (Shaywitz, 2003, p. 258). Culturally responsive teaching uniquely tailors instruction to the needs of a student. The application of culturally responsive teaching should be a meticulously woven into instruction as we respond to the individual needs of our students. There is a plethora of validated research to support how instruction should be delivered to students with dyslexia. Therefore, culturally responsive teaching would be implemented to supplement dyslexia intervention, not to replace it.

**Summary**

The review of the literature presents a gap in research in several areas as it relates to embedding culturally responsive teaching in dyslexia instructional practices to bridge gaps in reading deficits. The review of the literature supports the lack of professional
development and instructional practice on culturally responsive teaching to complement the remediation of dyslexia. By providing dyslexia teachers with professional development on culturally responsive teaching, teachers have an opportunity to maximize the instructional experiences of students. Hammond (2015) shares that culturally responsive teaching calls for teachers to take an emotional risk to examine the deeply held beliefs that influence how they respond to students. As teachers take this risk, they have an opportunity to be self-reflective of their behaviors and the perceptions they have of their students. Howard (2003) extends this thought by sharing, “teachers who refuse to monitor their own beliefs and classroom ethos can contribute to resistance on the part of students” (p. 200).

Professional development opportunities on culturally responsive teaching to remediate a disability such as dyslexia allow teachers to improve their instructional design based on what is most relevant for the student, which increases the chances that the student will understand and internalize instruction, increasing academic achievement. Students with dyslexia require instruction with intensive scaffolding of reading skills, and teachers need to maintain a keen sense of how to deliver instruction effectively. “Culturally responsive teaching is a means for unleashing the higher learning potentials of ethnically diverse students by simultaneously cultivating their academic and psychological abilities” (Gay, 2018, p.21). As we further reflect on the review of literature, professional development on culturally responsive teaching will provide dyslexia teachers with skills to make the remediation of dyslexia relevant for students to improve reading deficits.
Chapter III
Methodology

Introduction

The review of the literature presented in Chapter 2 explained the many facets of dyslexia and the significance of implementing culturally responsive teaching. However, Chapter 3 explored the approach to respond to the research question, research design, and the role of the participants in this study. Furthermore, this chapter outlines the research tools, data collection, and data analysis. The content of this study lends itself to further understanding the impact of implementing culturally responsive teaching as a complementary component to remediate symptoms of dyslexia.

Research Question

This study answers the following question regarding the implementation of culturally responsive teaching to complement the remediation of dyslexia:

What are the perceptions of dyslexia interventionists toward the use of culturally responsive teaching to inform instructional practices, before and after professional development?

Research Design

This study best utilized a qualitative case study as a methodological approach to conduct research. “Case studies are a qualitative design in which the researcher explores in depth a program, event, activity, process or one or more individuals” (Creswell, 2018, 247). Qualitative case study parallels with my research as I explored the perceptions of a group of dyslexia interventionists and their perceptions of how culturally responsive teaching can inform their instructional practices. A case study methodology is
particularly suitable for investigating the bidirectional relationship between teaching instructions and teachers’ beliefs as they are manifested in the natural environment of the classroom while accounting for classroom and school characteristics (Olafson, Grandy, & Owens, 2015). The perceptions and responses of dyslexia interventionists vary based on their personal and professional experiences with students.

Implementing a qualitative research design allows opportunities for an ongoing examination of research. Researchers tend to look at meaning along a continuum (Shank & Brown, 2007, p.59). The focus of the study conducted was very dependent on the development of the participants understanding and willingness to see the significance of embedding students' cultural experiences into their daily instructional practices. For this to occur, several steps had to be in place to gather quality data and affect the instructional practices of the intervention. Mills (2018) shares that qualitative fieldwork strategies are experiencing, enquiring, and examining. The ongoing practice of the fieldwork strategies was used to glean meaning from data that was developed from various ways interventionists changed their views based on what they have learned and how students respond.

Additionally, the use of the qualitative research design cultivates ways teachers approach their current practice and to retrieve the best response from students. The primary goal of the research was for dyslexia interventionists to examine how PD efforts have changed their perceptions to improve instructional practices. Each teacher possesses different backgrounds, skill sets, and perceptions regarding instruction, culture, and students. Qualitative research lends itself to explore all these areas without boundaries and to observe different patterns of responses.
This study lends itself to capturing the perceptions of the participants' feelings and views regarding their knowledge of dyslexia and culturally responsive teaching. “The goal is to capture people’s naturalistic actions, reactions, and interactions, and to infer their ways of thinking and feeling.” (Saldana, 2011). Capturing the perspectives and the natural responses of dyslexia interventionists serve as the cornerstone of this research study. Attending to the participants' authentic perceptions of complementing culturally responsive teaching is what I find directs the outcomes of this study.

Culturally Responsive Teaching Professional Development

Professional development expands an educator's professional and personal growth that influences how instruction is delivered. Professional development is a multi-faceted, reflexive social practice involving the active decision-making by individuals and groups under the specific social settings in which they live and work (Hardy, 2015, p.1). Study participants engaged in two one-hour sessions of professional development on culturally responsive teaching. This study ultimately investigates the relationship between CRT and dyslexia. Due to dyslexia being neurobiological in its origin, I found it suitable to conduct professional development using the Ready for Rigor Framework (2015) as the professional development will inform instructional practices. Research conducted by Hammond (2015) focuses on the significance of understanding the relationship between CRT and the brain. I found this research to be very valuable to this study as dyslexia is neurobiological in its origin. “Culturally responsive teaching uses the brain principles of neuroscience to mediate learning effectively” (Hammond, 2015, p.20). The purpose of engaging dyslexia interventionists in professional development is to stimulate the
awareness of dyslexia, and culturally responsive teaching simultaneously to embed cognitive processes necessary to improve reading and intellectual capacity.

The content of the professional development is centered on the use of the Ready for Rigor Framework. The Ready for Rigor framework is designed to address four core practice areas that are dependent on one another to be effective. The first session focused on Practice Area I: Awareness and Practice Area II: Learning Partnerships. The second session focused on Practice Area III: Information Processing and Practice Area IV: Community Building. Hammond (2015) explains that the individual components of the framework are connected through the principles of brain-based learning. Each session was designed to arouse interest, encourage and inform instructional practices.

The neurobiological origin of dyslexia was integrated into the professional development sessions to present the significance of the parallels between CRT and dyslexia. “A dyslexic student’s route to learning is through meaning: meaning provides a framework for remembering” (Shaywitz, 2003, p.283). Gay (2018) further extends this thought as she shares, “As such, teaching is most effective when ecological factors, such as prior experiences, community settings, cultural backgrounds and ethnic identities of teachers and students, are included in its implementation” (p.28). Dyslexia instruction and CRT require meaningful frameworks as a focal point for instruction to be efficacious.
Figure 1 Ready for Rigor Framework: Approach to understanding CRT

Setting and Participants

Research conducted for this study occurred in a virtual setting. Participants engaged in the focus group, two professional development sessions, and two one-on-one interviews using the ZOOM virtual meeting platform.

Upon receiving approval for the University of Houston Institutional Review Board (IRB), participants were invited via email to participate in this study from a pool of dyslexia interventionists from the LinkedIn professional network. Email addresses
were collected from the LinkedIn professional networking platform due to restrictions as a result of COVID-19. Once each participant accepted the invitation, the consent form to participate in this study was sent out by the researcher and signed by the participant. The participants in this study consisted of five certified classroom teachers who serve as dyslexia interventionists from three suburban school districts from surrounding areas of Houston, Texas. Each participant agreed to participate in a focus group and attend (2) 1-hour professional development sessions on culturally responsive teaching. Moreover, the participants agreed to engage in individual interviews with the researcher after each professional development session. Each participant was asked to be transparent in their current and previous understanding of dyslexia intervention and culturally responsive teaching throughout the course of the research study.

The purposeful sampling design was selected to support the purpose of this study. Purposeful sampling is also referred to as judgment sampling. Marshal (1996) explains that the researcher actively selects the most productive sample to answer the research question. “This method of sampling involves identifying and selecting individuals that are especially knowledgeable about or experienced with a phenomenon interest” (Creswell & Plano Clark, 2011). In this case, dyslexia interventionists volunteered to participate in the study. However, those who volunteered were purposefully selected to represent views and perceptions to provide data for this study. The sampling population will catalyze dyslexia by increasing their awareness of how to embed culturally responsive teaching to inform their instructional practices.
Table 1

Participant Demographics

<table>
<thead>
<tr>
<th>Dyslexia Interventionist</th>
<th>Ethnicity</th>
<th>Years of Teaching</th>
<th>Years as a Dyslexia Interventionist</th>
<th>Level of Education</th>
<th>Method of Teacher Certification</th>
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<td>Graduate</td>
<td>Alternative Certification Program</td>
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<td>Traditionally Certified</td>
</tr>
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<td>10</td>
<td>7</td>
<td>Undergraduate</td>
<td>Alternative Certification Program</td>
</tr>
</tbody>
</table>

Data Collection

Data collected for this study occurred in three phases to ensure data credibility. Data were collected by conducting a focus group interview, individual interviews, and member checking. The three phases of data collection were triangulated to establish credibility. Creswell & Creswell (2018) explains to triangulate different data sources by examining evidence from the sources and using it to build a coherent justification of themes.

A focus group interview was conducted with all five participants to gauge the initial understanding of dyslexia, culture, and culturally responsive teaching. Gavora (2015) explains, “focus group interviews require coordination of participants’ actions in order to move the stream of communicated ideas ahead.” Hence, I found it suitable to
conduct the focus group interview first to support my ongoing interaction and
communication with the participants.” Gathering this information from the participants
allowed opportunities for the researcher to glean initial perceptions and practices about
the content of the study. Participants were presented with semi-structured interview
questions during the focus group purposed, which allowed each participant to provide
responses to guide the research.

The second phase of data collection occurred after each professional development
session on culturally responsive teaching. After each professional development session,
the participants engaged in individual interviews and responded to semi-structured
interview questions focused on dyslexia, culture, and culturally responsive teaching.
Engaging in individual interviews provided a thorough understanding of how the
perceptions and ideas of each dyslexia interventionist evolved after engaging in
professional development on culturally responsive teaching.

**Measures and Instruments**

The instrument used for this research study is a collection of interviews from a
group of five dyslexia interventionists. The purpose of this study is to identify how
dyslexia interventionists perceive the importance of using culturally responsive teaching
to inform their instructional practices as it relates to dyslexia. To explore the purpose of
this study, questions for the focus group and individual interviews were semi-structured,
which allowed participants an opportunity to elaborate or extend responses. Creswell
(2018) explains the questions should be minimal and evokes views and opinions of the
participants.
Conducting a focus group and one-on-one interviews as a data accumulation method was chosen to identify perceptions of dyslexia interventionists’ perspective towards culturally responsive teaching and if CRT can be used to complement dyslexia intervention. “An interview is a specialized conversation” (Shank & Brown, p. 63, 2018). During these specialized conversations with the participants, the researcher is gleaned through responses to find meaning to provide students with a better way to capture responses that will support the remediation of dyslexia.

Semi-structured interview questions were used as the line of questioning for the intent of this research. “Semi-structured interviews include a few general questions, but the interviewer is free to allow the interviewee to digress along any lines he or she wishes” (De Chesnay & Abrums, 2016, p.xxi). Using this form of questioning allowed participants to share and extend their responses, improved data quality, and validity. Participants were asked questions about their perceptions and their experience before and after embedding culturally responsive teaching in their dyslexia intervention.

During the third phase of data collection, participants engaged in the member checking process as a data validation strategy to preserve data integrity. Member checking involves taking data and interpretations back to the participants in a study so they can confirm the credibility of the information and narrative account (Creswell & Miller, 2000). Additionally, member checking furthers support the collection and analysis of data, as dyslexia interventionists reviewed these data sets to determine the absence of researcher bias tendencies.
Qualitative Data Analysis

“Qualitative data analysis is a process of breaking down data into smaller units, determining their import, and putting pertinent units together in a more general analytical form (Mills, 2018, p.178). Data collected was analyzed using thematic analysis. Thematic analysis is a widely used approach with the purpose of “identifying, analyzing, and reporting patterns (themes) within data” (Braun & Clarke, 2006, p. 79). “Thematic analysis is a foundational method of analysis that is needed to be defined and described to solidify its place in qualitative research” (Braun & Clark, 2006, p.79).

Thematic analysis is a six phased approach to analyze qualitative data.

**Phase 1:** In phase one, data was reviewed and transcribed precisely as it was heard via audio. After the transcription was complete, the researcher read it while listening to the audio for accuracy (Braun & Clarke, 2006).

**Phase 2:** Phase two involved generating initial codes. Cresswell and Poth (2018) define codes as categories representing the heart of qualitative data analysis. Braun and Clarke (2006) describe this phase as “coding interesting features of the data in a systematic fashion across the entire data set, collating data relevant to each code.” Transcripts were reviewed to glean detailed descriptions to support coding.

**Phase 3:** Upon completion of identifying codes presented in the data, I was able to enter phase three of thematic analysis, searching for themes. Braun and Clarke (2006) describe phase three as collating codes into potential themes, gathering all data relevant to each potential theme. To accomplish this, an excel spreadsheet was created to identify the relationship between codes. The codes were organized
and analyzed to identify what themes could be generated from the data collected. Essentially, you are starting to analyze your codes and consider how different codes may combine to form an overarching theme (Braun & Clarke, 2006).

**Phase 4: Reviewing themes:** Checking if the themes work in relation to the coded extracts (Level 1) and the entire data set (Level 2) (Braun & Clarke, 2006). The themes were reviewed that were formulated using the generated codes. After all the themes were reviewed, all the transcripts were reread to ensure that the themes did, in fact fit the data and also to correctly code any parts of the data that had not been captured initially (Braun & Clarke, 2006). Additionally, a district-level dyslexia specialist reviewed these data sets to determine the absence of researcher bias tendencies.

**Phase 5: Defining and naming themes:** Ongoing analysis to refine the specifics of each theme and the overall story the analysis tells, generating clear definitions and names for each theme (Braun & Clarke, 2006). During this phase, the names of themes were refined, solidified, supported by coding, and organized in an excel spreadsheet with a thorough analysis.

**Phase 6: Producing the report:** The final opportunity for analysis. Selection of vivid, compelling extract examples, the final analysis of selected extracts, relating back of the analysis to the research question and literature, producing a scholarly report of the analysis (Braun & Clarke, 2006). During this phase, extracts were reviewed to ensure data prevalence to support the development of a quality report. Extracts need to be embedded within an analytic narrative that compellingly illustrates the story you are telling about your data, and your analytic narrative
needs to go beyond description of the data and make an argument in relation to your research question (Braun & Clarke, 2006).

**Practical Considerations and Limitations**

In conducting qualitative research for this study, I found it imperative to create a safe and trusting environment. The participants in this study were asked questions that have the potential to make participants feel uncomfortable. Therefore, as the researcher, I found it necessary to ensure participants felt comfortable sharing their responses. The first approach used to create this type of environment was to be transparent with my intentions and operate within the guidelines of the Institutional Review Board (IRB). The primary limitation of this study is primarily a result of the timeline needed to gather robust data. Additionally, because purposeful sampling was used to recruit participants who volunteered to engage in the study, a variance of subjects was unable to be recruited to obtain data.

Another limitation of this study has been the presence of the global pandemic of COVID-19. Initially, my goal was to conduct in-person observations and to have face to face interactions with each participant. However, due to the occurrence of COVID-19, schools were closed, and social distancing was enforced and practiced. All interactions with the research participants had to be conducted in a virtual setting. I would have preferred more personable interactions with each participant to observe them in the classroom setting and assess body language as well, but the pandemic limited the amount of exposure and interaction I could have with each participant.
Chapter IV

Findings and Results

In this study, I aimed to better understand the attitudinal changes in providing dyslexia interventionists with professional development on using CRT to complement the remediation of dyslexia in elementary school students. Dyslexia interventionists are trained to deliver instruction in a very systematic, explicit manner in keeping with the research-based design of the instructional program. Dyslexia instruction has been proven to be effective when implemented with fidelity. However, because of the prescriptive nature of the intervention, I have found dyslexia intervention, such programs are not typically tailored to the individual needs of students from various cultures diagnosed with dyslexia. Therefore, the study focused on the research question:

What are the perceptions of dyslexia interventionists toward the use of culturally responsive teaching (CRT) to inform instructional practices before and after professional development on this topic?

Focus Group Interview

I began data collection by conducting a focus group, engaging interventionists with semi-structured interview questions. By using the focus group interview as the initial phase of data collection, I sought to understand the participants' knowledge of dyslexia and CRT before engaging in professional development and interviews. The focus group interview revealed that each participant could communicate their understanding of dyslexia and its treatment; however, their knowledge of CRT appeared limited. Often, the interventionists displayed some apprehension about responding to questions regarding CRT until other interventionists began to share their thoughts. I
attributed this to the participants' limited exposure to the topic. However, as the interview progressed, they became more comfortable with the discussion and were more apt to share their thoughts. When asked to explain their understanding of culturally responsive teaching, the participants offered the following responses:

**Interventionist 1:** “It helps to bridge that insecurity or make them feel more comfortable, and learning becomes easier.”

**Interventionist 2:** “Zooming and actually getting a snippet of their home life because you work with kids from homes and you can see the interaction they have with their parents. It gives you a better understanding of your students.”

**Interventionist 3:** “Just understanding or understanding the child's culture that you're teaching; you understand that everybody is not raised like you are and all culture their experiences are different from yours.”

**Interventionist 4:** “We have to consider their home life, their background, and where family comes from. I think somebody has to speak up and say we what we need to do to help children.”

Although each participants’ responses demonstrated limited knowledge of the topic, I found them to have a genuine interest in learning more about culturally responsive teaching and how it could be used in their professional practice. Although the interest was present, I observed some discomfort from the participants by discussing the topic. Initial responses were vague and often reverted to their previous experiences with working with students with dyslexia. This led me to redirect the discussion back to the question; however, they continued to elaborate on what was most familiar to them. The interventionists provided responses that affirmed the need for understanding the culture
of their students and their unfamiliarity with CRT. The participants’ keen interest in the topic informed my design of professional development and further interview questions.

**Individual Interviews**

After completing the focus group interview, two 1-hour professional development sessions on culturally responsive teaching and individual interviews. After each PD session, participants were individually interviewed using semi-structured interview questions to explore their perceptions of using culturally responsive teaching to inform their instructional practices. As data from interviews were analyzed a total of five themes emerged: 1) Dyslexia interventionist felt the implementation of culturally responsive teaching would improve student attentiveness; 2) Professional development on culturally responsive teaching improve dyslexia interventionists awareness of the significance of the cultures of their students; 3) Dyslexia interventionists recognized the neurobiological connection between CRT and dyslexia; 4) Dyslexia interventionists felt culturally responsive teaching complements instruction provided in dyslexia intervention; 5) Dyslexia interventionist felt culturally responsive teaching would have an influence on future instructional practices.

**Theme 1: Student Attentiveness**

Dyslexia interventionist felt the implementation of culturally responsive teaching would improve student attentiveness during instruction.

**Interventionist 1:** "It actually is like a process because it is almost like you have to have the hook and in the first strategy ignite in the PD, I thought of the hook for the lesson and their culture in the lesson can be that hook. So, again, you're still trying to grasp their attention and make sure that they're understanding,
before you can even break it down into smaller pieces. You have to make sure you at least have their attention."

**Interventionist 2:** "Well, as we talked about the first strategy, ignite to kind of get them interested and involved and make the lesson important to them. So whenever or before you can get them to pay attention, you have to find something that is a connection. If you find that connection, then you will have more of a response from your students."

**Interventionist 3:** “I think it (CRT) supports the remediation of dyslexia. It grabs their attention to complete activities that involve multi-sensory teaching, specifically possibly using their actual bodies to demonstrate how words work."

**Interventionist 5:** "I think embedding CRT can help with sustaining their attention. If you don't get their attention and make it (instruction) digestible to where they can process it, and apply it, it's not relevant, and you've wasted that whole session."

**Theme 1 Discussion**

The first theme identified dyslexia interventionist felt the implementation of culturally responsive reaching would improve student attentiveness during dyslexia instruction. Hammond (2015) shares that "neuroscience reminds us that before we can be motivated to learn what is in front of us, we must pay attention to it." Attention is the first step to learning (Hammond, 2015, p.128). Four out of five of the research participants elaborated on the significance of CRT being embedded in dyslexia intervention to support the remediation of dyslexia. As shared in the review of literature, Gay (2002) states, "when instructional strategies reflect the cultural values, traits, and socialization of
African-American students, their attention spans, quality of academic effort is improved."

Shaywitz (2003) further adds to this finding by explaining that, "A teacher is continuously delivering the necessary knowledge while at the same time working hard to ensure that it is accompanied by a "hook" that she thinks will be meaningful to the child."

Interestingly, Interventionist 1 and 2 the importance of having a "hook" and how they felt the "Ignite" instructional strategy presented in the professional development session two prompted them to think about the hook of the lesson. Hammond (2015) describes "Ignite" as the cue to get the brain's attention. Each of the four interventionists explained that having each their students' attention is necessary to ensure instruction is being received, understood, and applied. In the responses gathered for this theme, each interventionist felt culturally responsive teaching practices could inform their instructional practices to support maintaining student attentiveness.

**Theme 2: Improvement of Interventionists Awareness**

Professional development on culturally responsive teaching improved dyslexia interventionists' awareness of the significance of the cultures of their students.

- **Interventionist 1:** "I feel that I could have done things a lot differently if I would have been introduced earlier to culturally responsive teaching, as well as having that awareness component of it, which we don't discuss enough of."

- **Interventionist 2:** "Well, I liked especially after our discussion yesterday for people to learn new information feel to be more aware of the fact that the brain passes to through a process and steps to read words. So, now I feel I have complete awareness of CRT. I've known it, but now I am more aware of it. I feel
like if I could start teaching my groups tomorrow. I would do it in a totally different way and not deviate."

**Interventionist 3:** "It will help me to be more aware of their culture and bring my understanding of their culture into the classroom so that I can be a better teacher and more responsive to them, and not just to their culture."

**Interventionist 4:** "So many of things that I never thought about like culture is not just looking at race, but it's looking at where does this person come from, what do they come to us already knowing and how can we make education better for them because we understand where they've come from the beginning. It's not a new perspective. I think it's just a perspective that I haven't entertained. Well, one that I need to look at more carefully."

**Theme 2 Discussion**

The significance of awareness students' culture was the second theme identified in the data gleaned from participant research participants in this study. Awareness of students' culture provides educators with an understanding of background knowledge that supports instructional practices and creates a better relationship. Interventionists 1, 2, 3, and 4 felt the professional development on culturally responsive teaching provided them with an understanding of the culture that would better inform future instructional practices. During the focus group, I observed participants demonstrate a level of discomfort when discussing culture. Verbally all participants expressed comfort with discussing culture; however, I noticed gestures which signaled that discussing culture may be a concern.
Based on my observations and focus group responses, I intentionally presented information in the first professional development session to dispel misconceptions about culture. As I noticed in the focus group interview, the participants were not able to clearly articulate their understanding of culture. I was also intentional about creating an environment in which participants felt comfortable expressing their thoughts and diminishing their feeling of discomfort with the topic. My observations of the participants' discomfort were confirmed in my individual interview with Interventionist 4, as she shared:

"Honestly, I'm not comfortable with that (culture) sometimes. I'm going to say that sometimes being a white, middle-class female. Sometimes, maybe I come up as thinking, I know, I understand your culture because I don’t, and so I don't bring up culture."

After participants engaged in the professional development sessions, interventionists shared how understanding culture and the culture of their students gave them insight into how they could better serve students in dyslexia intervention. Furthermore, as the interviews progressed, I observed a shift in the level of comfort with discussing the topic as each of them was more expressive of their view on culturally responsive teaching. I found this to be a result of them being able to share their thoughts in a safe environment and becoming more knowledgeable about the content.

**Theme 3: Neurobiological Connection Between CRT and Dyslexia**

Dyslexia interventionists recognized the neurobiological connection between CRT and dyslexia.
**Interventionist 1:** "Honestly, I never thought to think of things and such. These two realistic components are always separated but knowing that you have to consider the processing of the brain is very important. I was just thinking more of just hearing sounds versus their neurobiological part. I didn’t make the connection between the two, but now I just go back to with the sessions is that we’ve had and think about and understanding the definition of cultural differences. It makes so much more sense, where now I can connect."

**Interventionist 2:** "I just feel like just sometimes it's not just for me to understand how the brain works when it comes to dyslexia, but for kids to understand how it works as well. It's important for them to know as well as the teacher knowing how to make culturally responsive teaching work with dyslexia instruction."

**Interventionist 3:** "I think it (culturally responsive teaching) enhances instruction if you understand how the brain works and it enhances your delivery. I think the whole piece about the brain and how it works is very important."

**Interventionist 4:** "Dyslexia is neurobiological, so we have to always consider the brain-based part of it. We work on our memories a lot and and cultural part is understanding where our kids come from culturally and how we are triggering their memories to help them to learn."

**Theme 3 Discussion**

As shared in the literature review, dyslexia and culturally responsive teaching share a neurobiological connection to support learning processes. The responses from Interventionists 1, 2, 3, and 4 further support the research presented in the literature review. Each interventionist elaborated on the significance of understanding the
neurobiological connection between CRT and dyslexia. Based on the interventionists' responses, understanding the neurobiological aspects of both culturally responsive teaching and dyslexia intervention enhances learning for students with dyslexia. For example, Interventionist 3 explained, culturally responsive teaching enhances the way you deliver dyslexia intervention if you understand how the brain works. Although dyslexia intervention is explicitly and systematically delivered, interventionists felt due to the neurobiological connection of the two enhances their instructional practices.

Furthermore, this theme reveals the importance of allowing knowledge of culturally responsive teaching practice and dyslexia to work in concert with brain functions to support the remediation of dyslexia. Interestingly, Interventionist 1 explained she has always separated her knowledge of brain function and how she approaches instruction. Based on her gestures I observed during the interview, she reached an epiphany regarding how she has traditionally delivered instruction, which further supports the use of CRT in the future to inform their instructional practices.

**Theme 4: Culturally Responsive Teaching Complements Dyslexia Instruction**

Dyslexia interventionists felt culturally responsive teaching complements dyslexia intervention. Dyslexia intervention typically has a systematic instructional delivery. Participants were asked, "Does embedding CRT interrupt or create a barrier to the delivery of your instruction?" I found each interventionist to be very reflective and offered the following responses.

**Interventionist 1:** "I would say it (instruction) needs to do both in just my experience it (CRT) needs to interrupt the way you the way you've been delivering the intervention. You cannot throw away what you've been doing but
stop doing it that way and implement these new tools so you can be more effective."

**Interventionist 3:** "I don't think culturally responsive teaching will create a barrier. I think it will enhance instruction because I feel that students need to know that you're interested in them. You're interested in their culture and they need to know that you care about them in order to reach them and help. I think it will enhance it."

**Interventionist 4:** "I don't feel like it interrupted or created a barrier. What I did feel like I will say is in order to keep it systematic, I had to consciously consider the culture of the student, the way the student was speaking or the way the student reacted to me. It could have made me be more conscious of how I deliver the instruction."

"I didn't even actually change the method of it (instruction). I changed my thinking of it. If it is culturally how a student received me or received the lesson, or the dialect, I could just accept that. I don't make that as a part of the disability but a part of who that child is."

**Interventionist 5:** "It can do both in a good way. This is where I should dig deeper to know that you can also embed it in the discovery part of the lesson when you begin teaching. It is kind of like that icebreaker I really I think you could embed it (CRT) just about anywhere in everywhere."

**Theme 4 Discussion**

Dyslexia intervention typically has a systematic instructional delivery.

Participants were asked, "Does embedding CRT interrupt or create a barrier to the
delivery of your instruction?" I found each interventionist to be very reflective of their responses. Interventionists 1 and 5 explained that embedding CRT into their instructional delivery creates a positive interruption to current practices. As it does not prevent them from what is required of the intervention program and allows them to use CRT as an enhancement to instruction.

Interventionist 3 shared she felt embedding CRT would enhance her instructional delivery. She explained that embedding culturally responsive teaching would let students know you care about them by letting them know you are interested in their culture. Additionally, in her interview, she shared experiences with students she has worked in the past and how she could have made instruction more impactful by attending to the students' culture as a part of her lesson design. As a result, she would be able to reach and better support her students.

Interventionist 4 elaborated on how she did not change her instruction method but changed her thinking of culturally responsive teaching. The participants used the importance of understanding the student's dialect as an example. A student's dialect may demonstrate a student's difficulty with producing certain sounds of the alphabet, which may substantially impact the way a student reads, writes, and spells. Therefore, upon reflecting on her experience in this study, she understood the dialect as a part of who the student is and not necessarily a part of the disability.

**Theme 5: CRT Influences Future Instructional Practices**

Dyslexia interventionist felt culturally responsive teaching would influence future instructional practices.
Interventionist 1: "For starters, I would open my mind just to get started and begin to help the kids make those necessary connections using whatever it is to make sure it becomes more usable to you. I want to make sure that I don't have to keep it so structured that we don’t allow processing time. Let's just talk and think about it. Then we can go into the more cognitive part where we have the cognitive routines and building those connections with the students to make sure that they have that usable knowledge. Those are strategies I want to future implement."

Interventionist 3: "I think that it (professional development) brought in my understanding of culture. "It made me more aware of some aspects of culture that I had not considered to help improve how I teach and how students learn. So, I think it expanded my view of culture and the impact that it has on how I teach."

Interventionist 4: "I think, always remembering that we're not the first teacher, always remembering that as much as we think that we are the ones or that I am the one that's giving you all of this knowledge, somebody else did it before me. I have to always consider that you came to me with something that's rich and important, and I shouldn't stomp on that and make it go away, but build on that and help you to learn because you came to me with that."

Interventionist 5: "Not until the presentation today, I had no idea about this but now actually it is (culture) connected, and you know, I'm going to take it back next school year. "I'm definitely going to try to get to know their cultural backgrounds a lot more and incorporate it."
Theme 5 Discussion

The participants felt the information presented in this study would influence future instructional practices. Interventionists 1, 3, 4, and 5 expressed various ways information presented in the professional development sessions has provided them with a better understanding of culture and how students learn. In gleaning through their responses, I found the participants' new knowledge of culture allowed them to reconceptualize their view of how dyslexia intervention should be delivered. Each of them expressed their desire to include their new understanding of culturally responsive teaching into future teaching practices. I found each of them to be very emphatic in expressing how they would like to move forward with the future practice of CRT in their dyslexia intervention. The thoughts of Interventionist 4 especially struck me as she stated:

"I have to always consider that you came to me with something that's rich and important, and I shouldn't stomp on that and make it go away, but build on that and help you to learn because you came to me with that."

Interventionist 4's thoughts show her new understanding of valuing who the student is and appreciating the bank of knowledge students possess. Her response is one of the significant ideas centered around culturally responsive teaching practices and dyslexia instruction as we strive to meet students where they are as individuals and academically.

Summary

This study's findings suggest that professional development on culturally responsive teaching would be beneficial in informing the instructional practices of dyslexia interventionists. Upon completing the focus group, I observed that the
participants had limited knowledge of culturally responsive teaching practices. However, after each participant engaged in a culturally responsive professional development session, participants demonstrated an increased level of expertise and interest in integrating this topic into their instructional practices. While speaking with each interventionist in individual interviews, they often reflected on different students they have worked within the past and wished they would have been more knowledgeable about CRT earlier in their careers. Guskey (2010) explains, “although teachers are generally required to take part in professional development by certification or contractual agreements, most report that they engage in these activities because they want to become better teachers” (p.382). I found this to very apparent in this study as the participants demonstrated an interest in learning more and improving their ability to improve how they could improve instruction for students with dyslexia.
Chapter V

Recommendations and Conclusion

This study aimed to explore the perception of dyslexia interventionists using culturally responsive teaching to inform their instructional practices, before and after professional development on the topic. In conducting this research, the gap in literature became more apparent as there was minimal evidence of the significance of intersecting culturally responsive teaching (CRT) and dyslexia in the instructional practices of dyslexia interventionists. This was further recognized as I engaged the participants in discussions before and after professional development on CRT and their instructional practices. Due to the programmatic nature of dyslexia training and instruction, the remediation of dyslexia has been historically designed prescriptive to the disability as opposed to being inclusive to the student's cultural background.

Given the close connection between CRT and dyslexia, the correlation between them was found to be very apparent as I reflect on the ideas presented in the review literature and the responses of this study’s participants. Shaywitz (2003) states, "effective reading instruction is responsive to the child's unique needs, to his actions and behavior." Gay (2018) further extend this thought as she shares, "teaching is most effective when ecological factors, such as experiences, community settings, cultural backgrounds and ethnic identities of teachers and students, are included in its implementation" (p.28). Although there is literature to support the correlation between the two, there was no evidence that demonstrates the explicit practice of the intersection between them. However, each research participant's responses and thoughts in conjunction with the review of the literature validate the significance of this study. Hence, this study affirms
the pursuance of CRT as a complement to remediating the disability of dyslexia based on
the perceptions of experienced dyslexia interventionists.

**Recommendations for Dyslexia Interventionists**

In my 12 years of experience providing direct instruction to students with
dyslexia, I have realized the training and delivery of dyslexia intervention leaves more to
be desired to support the needs of culturally diverse students adequately. Many
interventionists may view this thought by sharing that dyslexia interventionists are
trained in multisensory approaches to instruction. However, these multisensory
approaches are not inclusive of culturally responsive teaching practices. “Culture, as it
turns out, is the way the brain makes sense of the world” (Hammond, 2015, p.22).
Furthermore, a child’s first learning experiences are deeply rooted in their culture. As
educators, we should use these early learning experiences as a platform to catalyze a
positive momentum in the remediation of dyslexia.

Although dyslexia interventionists are required to implement instructional
programs with fidelity, this study revealed an attitudinal shift in how this framework
could complement their instructional practices. Based on the results of this study, I would
encourage dyslexia interventionists: 1) increase their awareness of the culture of their
students; 2) explore implicit biases, 3) use students’ culture as a frame of reference to as a
channel for connectivity in the instructional setting; and 4) create a learning environment
which is reflective of various attributes of the students' culture. Given the results of this
study, the implementation of these tenets would not interrupt the fidelity of the
instruction you provide, but CRT would enhance instructional practices.
Recommendations for Classroom Teachers

Dyslexia instruction is not isolated to the small group setting. Students with dyslexia receive the bulk of their instruction in the traditional classroom setting. Herein lies the significance of the classroom teachers' role in increasing their knowledge and implementing culturally responsive teaching practices. As mentioned earlier, the tenets are also applicable to classroom teachers as they provide instruction in academic content areas to students with dyslexia. As shared in the literature review, “culturally responsive teaching helps to bridge different ways of knowing and engages students from non-dominant cultures in demonstrating their proficiencies in language usage, grammar, mathematical knowledge, and other tools they use to navigate their environment” (Kozleski, 2010, p.5). It is essential for classroom teachers to embrace their students' culture to foster learning opportunities that are relevant and impactful.

Effective culturally responsive teaching is a reciprocal practice. "You can't teach what and who you don't know." (Gay, 2018, p.1). Therefore, classroom teachers have a responsibility to students and themselves to increase their awareness of students' culture to inform instructional practices best. A large component of implementing CRT to inform instructional practices is for educators to be aware of assumptions they may be regarding a students' culture. An educator’s inability to recognize these implicit biases can often inadvertently play a negative role in the treatment of dyslexia, design instruction, expectations for our students, and learning outcomes.

As teachers move forward in their efforts to become culturally responsive educators, it would be very beneficial for teachers to examine their perceptions of various cultures and consider how their perceptions may impact their interaction with students.
and how instruction is delivered. Once these perceptions are realized, teachers can move forward with effectively building relationships and establishing a sense of community among learners. At this point, the many facets and positive academic results have room to thrive.

**Recommendations for Educational Leaders**

Educational leaders can support dyslexia interventionists by providing professional development on culturally responsive teaching practices. Professional development should be ongoing with expectations of application and reflection through conversation, planning meetings, and instruction. As leaders in education, we must not ignore or diminish the inventory of the bank information our students have when they leave their homes and enter our schools. The information our students have available should be used as a conduit for new learning. This is especially necessary for our students with dyslexia who have the ability to learn but require very prescriptive instructional approaches to maximize their learning. Evidence of this study affirms the importance of providing professional development to support to become conversant about the culture of their students and inform instructional practices.

Educational leaders are charged with steering the growth and development of teachers as teachers are expected to reciprocate the same behavior with their students. Culturally responsive teaching practices reaches beyond awareness. We must to the “inside-out” work required: developing the right mindset, engaging in self-reflection, checking our implicit biases, practicing social-emotional awareness, and holding an inquiry stance regarding the impact of our interactions with our students (Hammond, 2015). Providing professional development on CRT without holistic practice in our
instructional programming limits the power of maximizing instructional experiences with our students. Furthermore, educational leaders must immerse themselves in becoming well-informed and implement CRT in their leadership practices.

Additionally, it would be beneficial for educational leaders to provide professional development sessions that discuss CRT strategies. CRT strategies can support instructional practices in a variety of ways as we seek to create culturally responsive educators. CRT strategies can serve as a reference for teachers when designing meaningful instruction for culturally diverse students. Professional development sessions can be videotaped and archived on school or district servers for continued use in professional learning communities and lesson plan development.

I would also encourage educational leaders to have these archived PD sessions on CRT strategies available as campus intervention teams and teachers discuss academic improvement and to address the needs of students in Tier II and Tier III Response to Intervention. Often students who require additional academic support require specific instructional support that may not be addressed in traditional classroom instruction. Having PD sessions available on CRT strategies can provide educators with many ways to gain access to students’ intellectual abilities to make academic improvement.

**Recommendations for Parents**

Parents of students with dyslexia often serve as the student’s first advocate for helping them overcome challenges with this disability. Based on this study, I would encourage parents of students with dyslexia to be intentional about building positive relationships with teachers and administrators within their child’s school. Students with dyslexia have tremendous difficulty becoming fluent readers. Dyslexia is often coupled
with socioemotional factors such as anxiety, depression, and frustration. Positive relationships between parents and educators can assist students with dyslexia in coping with the socioemotional impact of this disability. Students need to be able to recognize and trust the support system that has been formed around them to help navigate the many challenges they face.

In addition to building relationships with educators, I would recommend that parents become involved in the learning process. You can learn strategies from your child’s dyslexia interventionists and classroom teachers to reinforce learning at home. Although dyslexia interventionists and classroom teachers are formally trained to support and provide instruction to students with dyslexia, parents can learn meaningful ways to support and increase your student’s rate of progress. Some of these strategies may include using assistive technology support, reading at home, listening comprehension strategies, and strategies to support decoding and spelling. A parent’s involvement in the learning process has the potential to provide a student with dyslexia with the momentum to make the necessary progress in diminishing the characteristics of dyslexia.

**Recommendations for Future Research**

The research presented in this study demonstrated the perceptions of dyslexia interventionists on the use of culturally responsive teaching to inform their instructional practices before and after professional development. To extend this study's scope, I would recommend a continuation of ongoing professional development, observations of dyslexia interventionists implementing CRT, and interviews to support the content of this research. Furthermore, I would like to see quantitative research be conducted on this topic to determine causal relationships in student performance before and after the
implementation of CRT by dyslexia interventionists. A quantitative research study on this topic would further validate the use of CRT to inform instructional practices related to academic improvements. To further enhance this recommendation, the researcher could include quantitative data to compare the academic performance of students with dyslexia with and without culturally responsive teaching practices embedded into daily instruction.

An additional recommendation for future research is to conduct a mixed-method research study with English Learners (ELs) with dyslexia. We have a growing population of EL students who are not or being diagnosed with dyslexia due to concerns of English language acquisition. This study would provide qualitative and quantitative data on CRT's use to support EL students' needs. This study should include professional development, observations, interviews, and academic performance data. We must remember, dyslexia is not specific to English speakers only, and this disability affects many who go undiagnosed. Essentially, EL’s are penalized for English not being their primary language and often go overlooked. Therefore, this recommendation would be beneficial for dyslexia interventionists and educational leaders to understand how to improve the remediation of dyslexia in our students who are English Learners.

**Conclusion**

Dyslexia instruction is often programmatic and is required to be implemented with fidelity. From my experience in working with students with dyslexia, the programmatic features of dyslexia instructional programs can present limitations as instruction is given explicitly, systematically with a “one size fits all” approach. Complementing dyslexia instruction with culturally responsive teaching can make
learning meaningful for students and offers more opportunities for dyslexia interventionists to gain momentum, improving literacy skills.

As shared in the review of literature, 15-20% of the population have some symptom of dyslexia. Dyslexia is not specific to race, gender, culture, or socioeconomic status. Due to this understanding, the opportunities for future research are vast. Based on this study, there is an enormous gap in research that has not allowed dyslexia and culturally responsive teaching to intersect. The intersection of these two topics can positively change how we approach the dyslexia instruction for the diverse population of students we serve. Based on this study, culturally responsive teaching should complement the programmatic nature of dyslexia instruction. My desire is for educators and researchers in the field is to be intentional about seeking ways to support the students with dyslexia by using culture as a pathway for learning.
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Appendix A

Recruitment Material
Recruitment Email

Hello Prospective Research Study Participant,

This is an invitation for you to participate in a research study. I am conducting this study to complete my dissertation for the fulfillment of my Doctorate in Professional Leadership with an emphasis in Literacy Education at the University of Houston. This study has been reviewed by the University of Houston Institutional Review Board.

The purpose of this study is to examine and better understand the effects of providing dyslexia interventionists with professional development on using culturally responsive teaching to complement dyslexia instruction among elementary school students. Dyslexia intervention and culturally responsive teaching require explicit teaching practices which prompts the brain to access working memory and make metacognitive connections to improve reading skills.

We expect that you will be in this research study for six weeks.

If you agree to participate in this research, you will engage in the following:

- Sign a consent form documenting your agreement to participate in this study.
- (2) 1-hour professional development sessions on culturally responsive teaching
- 1 focus group interview
- 2 individual interviews
- Interact with the researcher for all meetings via virtual meeting platform.

If you are interested in participating in this research study, please contact me via email to discuss providing your consent and ask any questions you may have regarding your participation.

Shannon Treadville
Doctoral Candidate
University of Houston
Email: shannont.st@gmail.com
Participant Informed Consent

Consent to Take Part in a Human Research Study

Title of research study: PROFESSIONAL DEVELOPMENT ON CULTURALLY RESPONSIVE TEACHING TO COMPLEMENT THE REMEDIATION OF DYSLEXIA IN ELEMENTARY STUDENTS

Investigator: Shannon Treadville is the principal investigator. This project is part of a dissertation under the supervision of Dr. Lavernia Hutchison, University of Houston Professor/Doctoral Advisor.

Key Information:

The following focused information is being presented to assist you in understanding the key elements of this study, as well as the basic reasons why you may or may not wish to consider taking part. This section is only a summary; more detailed information, including how to contact the research team for additional information or questions, follows within the remainder of this document under the “Detailed Information” heading.

What should I know about a research study?

- Someone will explain this research study to you.
- This study has been reviewed by the University of Houston Institutional Review Board.
- Taking part in the research is voluntary, whether you take part is up to you.
- You can choose not to take part.
- You can agree to take part and later change your mind.
- Your decision will not be held against you.
- You can ask all the questions you want before you decide and can ask questions at any time during the study.

We invite you to take part in a research study about “Culturally Responsive Teaching to Complement the Remediation of Dyslexia” because you meet the following criteria being a certifies classroom teacher who provide dyslexia intervention to elementary school students.

In general, your participation in the research involves participating in two one-hour professional development session, an interview prior to the professional development, three observations and a focus group interview with all participants. Interviews will be audio recorded and observation notes will be recorded on an observation checklist form. All information you provide for the purpose of this study will be protected to maintain validity and your privacy.

There is no known risk to our participation in this study. However, possible benefits to your participation is to gain information and learning strategies to support students with dyslexia. The primary risk to you in taking part is sharing your perceptions on the content presented in this study. You will not receive compensation for participation.
**Detailed Information:**
The following is more detailed information about this study, in addition to the information listed above.

**Why is this research being done?**
The purpose of this study is to examine and better understand the effects of providing dyslexia interventionists with professional development on using culturally responsive teaching to complement dyslexia instruction among elementary school students. Dyslexia intervention and culturally responsive teaching require explicit teaching practices which prompts the brain to access working memory and make metacognitive connections to improve reading skills.

**How long will the research last?**
We expect that you will be in this research study for six weeks.

**How many people will be studied?**
We expect to enroll about 5 people in this research study.

**What happens if I say yes, I want to be in this research?**
- As a participant you will participate in the following:
  - 1 focus group interview
  - (2) 1-hour professional development sessions on culturally responsive teaching
  - (2) individual interviews

  - As the participant you will interact with the researcher via virtual meeting platform.

  - Semi-structured interview questions will be asked related to your instructional practices, views on culture and you’re your perceptions of accessing students background on inform instructional practices. You may skip a question if the question makes you feel uncomfortable.

This research study includes the following component(s) where we plan to audio record you as the research subject:

- [ ] I agree to be audio recorded during the research study.
- [ ] I agree that the audio recordings can be used in publication/presentations.
- [ ] I do not agree that the audio recording can be used in publication/presentations.
- [ ] I do not agree to be audio recorded during the research study.
- [ ] I do not agree to be audio recorded and I may still serve as a participate in the study.

**What happens if I do not want to be in this research?**
You can choose not to take part in the research, and it will not be held against you. Choosing not to take part will involve no penalty or loss of benefit to which you are otherwise entitled.

Your alternative to taking part in this research study is not to take part.
Consent to Take Part in a Human Research Study

What happens if I say yes, but I change my mind later?
You can leave the research at any time and it will not be held against you.
If you decide to leave the research, contact the investigator so that the investigator can be removed from study and all forms of communication related to the study.
If you stop being in the research, already collected data that still includes your name or other personal information be removed from the study record.

Is there any way being in this study could be bad for me?
We do not expect any risks related to the research activities. If you choose to take part and undergo a negative event you feel is related to the study, please contact the researcher.

Will I receive anything for being in this study?
You will not receive any form of compensation for your participation in this study.

Will being in this study help me in any way?
We cannot promise any benefits to you or others from your taking part in this research. However, possible benefits include increasing awareness of culturally responsive teaching assist you in improving how you deliver instruction to diverse learners.

What happens to the information collected for the research?
Your taking part in this project is anonymous, and information you provide cannot be linked to your identity.
Efforts will be made to keep your personal information private, including research study to people who have a need to review this information. Each subject’s name will be paired with a code number, which will appear on all written study materials. The list pairing the subject’s name to the code number will be kept separate from these materials. We cannot promise complete secrecy. Organizations that may inspect and copy your information include the Institutional Review Board (IRB) and other representatives of this organization, as well as collaborating institutions and federal agencies that oversee our research.
Your information that is collected as part of this research will not be used or distributed for future research studies, even if all your identifiers are removed.
We may share and/or publish the results of this research. However, unless otherwise detailed in this document, we will keep your name and other identifying information confidential.

Can I be removed from the research without my OK?

- The person in charge of the research study or the sponsor can remove you from the research study without your approval. Possible reasons for removal include:
  - sharing information shared by other participants
  - failure to attend professional development and interview sessions
Consent to Take Part in a Human Research Study

**Signature Block for Capable Adult**

Your signature documents your consent to take part in this research.

<table>
<thead>
<tr>
<th>Signature of subject</th>
<th>Date</th>
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<tbody>
<tr>
<td>Printed name of subject</td>
<td>Date</td>
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<tr>
<td>Signature of person obtaining consent</td>
<td>Date</td>
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<td>Printed name of person obtaining consent</td>
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Appendix B

Institutional Review Board (UH)
April 16, 2020

Shannon Treadville
sktreadville@uh.edu

Dear Shannon Treadville:

On April 13, 2020, the IRB reviewed the following submission:

<table>
<thead>
<tr>
<th>Type of Review:</th>
<th>Initial Study</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title of Study:</td>
<td>Professional Development on Cultural Responsive Teaching to Complement the Remediation of Dyslexia in Elementary School Students</td>
</tr>
<tr>
<td>Investigator:</td>
<td>Shannon Treadville</td>
</tr>
<tr>
<td>IRB ID:</td>
<td>STUDY00002183</td>
</tr>
<tr>
<td>Funding/Proposed Funding:</td>
<td>Name: Unfunded</td>
</tr>
<tr>
<td>Award ID:</td>
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<tr>
<td>Award Title:</td>
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</tr>
<tr>
<td>IND, IDE, or HDE:</td>
<td>None</td>
</tr>
</tbody>
</table>
| Documents Reviewed: | - Updated HRP 503 with Modifications, Category: IRB Protocol;
- Appendix B Individual Interview Session 1 Questions.docx, Category: Study tools (ex: surveys, interview/focus group questions, data collection forms, etc.);
- Appendix C Individual Session 2 Interview Questions.docx, Category: Study tools (ex: surveys, interview/focus group questions, data collection forms, etc.);
- Appendix A Focus Group Interview Questions (1).docx, Category: Study tools (ex: surveys, interview/focus group questions, data collection forms, etc.);
- Appendix D IRB Email for Subject Recruitment.docx, Category: Recruitment Materials;
- HRP-502a - CRT DYS CONSENT DOCUMENT-NON-CLINICAL.docx, Category: Consent Form; |
| Review Category: | Expedited |
| Committee Name: | Noncommittee review |
The IRB approved the study on April 15, 2020; recruitment and procedures detailed within the approved protocol may now be initiated.

As this study was approved under an exempt or expedited process, recently revised regulatory requirements do not require the submission of annual continuing review documentation. However, it is critical that the following submissions are made to the IRB to ensure continued compliance:

- Modifications to the protocol prior to initiating any changes (for example, the addition of study personnel, updated recruitment materials, change in study design, requests for additional subjects)
- Reportable New Information/Unanticipated Problems Involving Risks to Subjects or Others
- Study Closure

Unless a waiver has been granted by the IRB, use the stamped consent form approved by the IRB to document consent. The approved version may be downloaded from the documents tab.

In conducting this study, you are required to follow the requirements listed in the Investigator Manual (HRP-103), which can be found by navigating to the IRB Library within the IRB system.

Sincerely,

Research Integrity and Oversight (RIO) Office
University of Houston, Division of Research
713 743 9204
cphs@central.uh.edu
http://www.uh.edu/research/compliance/irb-cphs/
Appendix C

Interview Questions
Focus Group Interview Questions

Dyslexia

1. Explain your understanding of dyslexia
2. Dyslexia is neurobiological in its origin, what does that mean to you as a dyslexia interventionist?
3. Do you deliver dyslexia intervention in the same way for each of your students? Please explain why or why not.
4. If anything, what would you change about how you deliver dyslexia intervention to your students with dyslexia? Why or why not?
5. Think back to some of your intervention groups, what are some of the barriers or limitations you have experienced that have impacted the success of your students.
6. If you could, what would you change about how dyslexia intervention is delivered in the elementary school setting?

Culturally Responsive Teaching

1. Explain your understanding of culturally responsive teaching.
2. When you hear the word culture, what do you think about it?
3. What are some of your assumptions about culturally responsive teaching? What is unclear about it?
4. How comfortable are with discussing or referencing culture in your classroom environment? What do you feel contributes to your level of comfort?
5. Do you feel embedding references to your students’ cultural and/or personal experiences can contribute to improving reading skills? Why?

Culturally Responsive Teaching to Remediate Dyslexia

1. How do you build relationships of trust within your classroom environment? Why is this important?
2. What is your level of understanding of brain-based learning? Explain what it means or what you think it means.
3. Since dyslexia is a neurobiological impairment, How important do you feel embedding cultural references and/or experience making connections to dyslexia intervention?
Individual Interview Session 1

Dyslexia

1. Dyslexia intervention typically has a systematic instructional delivery, does embedding CRT interrupt or create a barrier to the delivery of your instruction? Explain.

2. Has the method in which you make considerations for how you deliver instruction changed? Please explain why or why not?

3. Do you feel embedding culturally responsive teaching has the potential to improve your students’ response to your dyslexia intervention? Why or why not and what factors contribute to your response.

4. If anything, what would you change about how you deliver dyslexia intervention to your students with dyslexia? Why or why not?

Culturally Responsive Teaching

1. Based on what was shared in the presentation how has your knowledge or perception of culture changed?

2. How has your understanding of culturally responsive teaching evolved since participating in this study?

3. Has your level of comfort with discussing and/or referencing culture in your classroom changed? What have been contributing factors to your level of comfort?

4. How does CRT contribute to your professional growth as an educator?

5. Do you feel embedding references to your students’ cultural and/or personal experiences can contribute to improving reading skills that are impacted by dyslexia?

6. As it relates to your instruction, how do you think it would strengthen the brain pathway ways to improve cognitive processes (Phonological Awareness, Rapid Automatic Naming, Orthographic Processing) by increasing the inclusiveness of your student's cultural background and/or experiences?
Individual Interview Session 2

1. What is your current understanding of the brain-based connection with culturally responsive teaching and dyslexia? Explain what you have learned and the connection between the two.

2. In stage one of information processing, the brain decides what it is going to pay attention to, how can you support dyslexia instruction with capturing their attention with culture?

3. What were your initial thoughts about the slide 8 discussion, outlet, or plug? How could understanding this concept improve or enhance how you will communicate and explain concepts to your students in dyslexia intervention?

4. How do understanding the culturally responsive teaching strategies, ignite, chunk chew, and review support the components of dyslexia instruction?

5. Explain how the development of rituals and routines with a cultural reference is beneficial to supporting the remediation of dyslexia?

6. How have you typically helped your students with dyslexia become more confident learners?

7. What is your new understanding of how the processing of new information helps in understanding the connection between the remediation of dyslexia and how the brain will process and retain information?

8. Has your perception changed toward using culturally responsive teaching been enhanced with the information shared in the learning sessions?

9. How will you use CRT in the future to inform your instructional practices?