IT ONLY TAKES ONE TEACHER TO MAKE A DIFFERENCE IN THE LIFE OF A STUDENT WITH DYSLEXIA: A CONTENT ANALYSIS

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My educational journey began in 2005. I was working in retail and struggling to find a place where I felt I belonged. I knew there was more I could do and had always dreamed of becoming a special education teacher. My first step would prove to be the accelerant for the takeoff that I experienced throughout this process toward earning a doctoral degree.

There are many people along the way that played a vital role in my successful completion of this degree. I want to begin by thanking my heavenly father for his grace and blessings. *I can do all things through Christ who strengthens me, Philippians 4:13.* Thank you to my father, Gerald, for always showing me that it is okay to dream big and for always believing in me. I wish you knew the magnitude your influence had on me. My sister, Tonnya, who I have always looked up to has also played a pivotal role in my success. If it were not for you obtaining your college degree, I might not have had the courage to take that first step. As my role model, you have greatly motivated me to continue this process to the end.

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Title of Study: IT ONLY TAKES ONE TEACHER TO MAKE A DIFFERENCE IN THE LIFE OF A STUDENT WITH DYSLEXIA: A CONTENT ANALYSIS

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Abstract: Students in Oklahoma schools who struggle to read consistently perform low in reading, including those with dyslexia. Teachers of these students are directly linked to students' achievement in all areas of academics. This qualitative content analysis explored the perceptions that six selected Oklahoma public school educators had about dyslexia and the pedagogical choices they made when they had students who struggled to read in their classrooms. The six Oklahoma educators directly taught reading in kindergarten through third grades and were purposefully selected to participate. Data collected consisted of semi-structured interviews of each participant. Their perceptions were analyzed using the causal model and the Framework for Understanding. Checklists created from IDA's (2019) Structured Literacy Primer and multisensory techniques were also used to analyze the data. This content analysis found that things not easily measured by observation were a struggle for the participants, three participants had some idea of what dyslexia was, and three did not. Still, all participants knew that dyslexia and intelligence were not related. Misconceptions about dyslexia existed among these participants, such as dyslexia as a visual issue. The participants' changes to instruction did not provide evidence that structured literacy and multisensory techniques were used simultaneously.

TABLE OF CONTENTS

Chapter Page

Chapter Page

Chapter Page

Chapter Page

LIST OF TABLES

Table Page

LIST OF FIGURES

Figure Page

CHAPTER I

INTRODUCTION TO THE STUDY

> In the past, the lack of ability to read and use printed materials was seen primarily as an individual problem, with implications for a person's job opportunities, educational goals, sense of fulfillment, and participation in society. Now, however, it is increasingly viewed as a national problem, with implications that reach far beyond the individual (National Center for Education Statistics, 2002, p. xii).

According to the National Center for Education Statistics (NCES, 2020), 17% of the national population lacks necessary literacy skills. According to the most recent NCES literacy rates in Oklahoma,12% of Oklahoma's population lacked basic literacy skills. With a population of 3,956,971 in 2019, this would mean roughly 474,000 Oklahomans were unable to read at a functional level (U.S. Census, 2019). In Tulsa county, one of the most populated counties in Oklahoma, "one in six adults…cannot read the prescription label on a medicine bottle, understand a newspaper article, or enter complete information on an application" (Tulsa County-City Library, 2019; National Assessment of Adult Literacy, 2003). Those statistics included school-aged children. The Nation's Report Card, published by the NCES (2017), reported that in reading, just 28% of Oklahoma fourth-graders performed at or above the proficient level in 2017; although not statistically significant, the trend for this set of data

continued to decline to indicate that, each year, fewer fourth graders perform above the proficient level. Recent data on average student reading scores showed that Oklahoma's fourth-graders ranked below thirty-four other states (NCES, 2017).

When students experience reading difficulties and begin to lag behind expected achievement, gaps between them and their non-disabled peers occur and can last throughout their entire school experience (Ferrer et al., 2015) and lifetime. These students are likely to have a Specific Learning Disability (SLD) in reading. The American Psychiatric Association (APA) (2016) pointed out that a Specific Learning Disability or SLD, "…if not treated, can potentially cause problems throughout a person's life, including lower academic achievement, lower self-esteem, higher rates of dropping out of school, higher psychological distress and poor overall mental health, as well as higher rates of unemployment/under-employment" (para. 3). These students may also experience other adverse effects, including inadequate or lower self-esteem, learned self-helplessness, and isolation from peers (Glazzard, 2010).

"Dyslexia is the most prevalent and well-recognized of the subtypes of specific learning disabilities" (Cortiella & Horowitz, 2014, p. 3). Roughly 13% of all students are on an Individualized Education Program (IEP); of these, 34% are categorized under SLD. Approximately seven percent have a SLD in mathematics, ten percent have a SLD in writing, with the majority, roughly 83% of students having a SLD in reading (NCES, 2018). The International Dyslexia Association (2019) defines dyslexia as a specific learning disability that is neurobiological in origin. Although the severity of dyslexia is different for each individual, those who have dyslexia face an array of difficulties with word recognition,

fluency, spelling, and writing (IDA, 2017). These problems can be significant, long-lasting, and pervasive.

My husband has dyslexia and cannot remember a time when he did not struggle academically. He felt many of his teachers thought he was lazy, and they often told him so; because of their assumptions, his teachers thought he did not care about his grades. Rather than retaining him, his teachers promoted him to the next grade, regardless of how he performed. My husband's parents also thought he was lazy and would punish him when he made failing grades at school. Nobody ever tried to help him. Thankfully, he graduated high school; soon after, he attempted to go to college but failed miserably during his second semester. His school experience left a bad taste in his mouth, and he has never found education to be important. To this day, he feels like a failure. Although more awareness exists today than back when my husband went to school, there are still children graduating high school not only feeling the same way my husband felt but graduating without basic literacy skills.

It was not until I became a special education teacher that I noticed many of my students were having the same experiences as my husband had frequently described to me. I thought for sure that now that they had a teacher who cared, I would make a difference. However, no matter what I tried in my own classroom, I found it very difficult for my students to make adequate gains. Once I started researching dyslexia, I soon realized that my own students were not alone. A more significant number of students were affected by this hidden disability than I initially thought. This sparked my interest in learning about dyslexia and what it would take for me to help my students learn to read. It was not long before I ran across others who had recounted their experiences growing up with dyslexia.

One person who experienced the devastating effects of dyslexia, much like my husband and other students had, was Patricia Polacco. She is a prolific illustrator and author of many award-winning children's books. One of her most notable books is *Thank You, Mr. Falker* (Polacco, 2012), a memoir of her account of her struggles navigating through school struggling to read. Despite her love for reading, Polacco struggled to read at the same level and pace as her peers (Polacco, 2012). Polacco (2012) wrote:

> …when Trisha looked at the page, all she saw were wiggling shapes, and when she tried to sound out words, all the other kids laughed at her. "Trisha, what are you looking at in that book?" they'd say. "I'm reading!" she'd say back to them. But her teacher would move on to the next person. Always when it was her turn to read, her teacher had to help her with every single word. (p. 6)

Repeatedly experiencing failure in reading situations inevitably wears a student down and makes them feel less than their nondisabled peers. Polacco (2012) tells the story of how she felt during her early years in school as she noticed that her peers could read but she could not. Polacco (2012) stated, "Trisha began to feel different. She began to feel dumb" (p. 6). Negative educational implications can follow students from elementary all the way to high school and on to higher education. IDA (2017) indicates, "Years of self-doubt and self-recrimination may erode a person's self-esteem, making them less able to tolerate the challenges of school, work, or social interactions and more stressed and anxious" (p. 5). Students with dyslexia often start to feel as if they are not capable of learning and may believe that they are unable to finish school (IDA, 2017). Polacco (2012) remembered school getting more difficult as time went on, and she described reading as "plain torture" (p. 11).

Many students with dyslexia struggle not only in reading but also in other academic areas, mathematics is often an area in which students with dyslexia experience difficulty (Hallahan & Kauffman, 2003; Hunt & Marshall, 2005). Polacco (2012) was no different; she experienced extreme difficulties in math. She remembered that "…numbers were the hardest thing of all to read. She ~~[Polacco]~~ never added anything right. 'Line the numbers up before you add them,' the teacher would say. But when Trisha tried, the numbers looked like a stack of blocks, wobbly and ready to fall" (Polacco, 2012, p. 11). My husband also struggled in math; he struggled reading the numbers in the correct order, aligning the numbers into an equation, and if he looked at the numbers too long, the numbers bounced all over the page.

Students with dyslexia will likely also struggle in academic subjects where reading is required like science, geography, social studies and economics. Furthermore, their limited vocabulary and background knowledge impede their academic success in more advanced subjects (Dyslexia SA, 2015; DIA, 2019). Many students with dyslexia, ultimately, face the decision about the value of continuing in school. increasing their risk of later difficulties in adulthood, including working lower-paying jobs.

Nelson Lauver (2011) recounted the challenges he faced in school dealing with dyslexia in his book, *Most unlikely to succeed: The trials, travels, and ultimate triumphs of a "throwaway kid": A memoir.* He recalled the humiliation he felt in second grade when his teacher asked him to read aloud. The other students laughed when he struggled to read the words (Lauver, 2011). Third grade was not any better. Lauver (2011) finally decided, "You can either look like the dumb kid who everyone makes fun of, or you can be the bad kid" (p. 69). He did not want to be the bad kid. He wanted to be the good kid and excel in school (Lauver, 2011). In 8th grade and up, he experienced physical abuse from school officials.

Every time he got into trouble, he would receive swats or worse. Although Lauver was tormented by his peers and abused by school officials, he graduated high school. He wanted to drop out, and almost did, but for some reason, he just kept putting off going to the office to pick up the drop out papers. He graduated 104th in his class of 104 students (Lauver, 2011, p. 206).

Experiencing difficulties in reading while growing up, like those experienced by Lauver, Polacco, or my husband, can negatively impact a students' future success after exiting school. Although no correlation has been established between the number of students who fail the third-grade reading test and those who have been incarcerated, there are a greater number of incarcerated individuals who have significant difficulty reading (Christle & Yell, 2008). Christle and Yell (2008) note this phenomenon for youth in the U.S.:

> Many incarcerated youths have failed to learn to read. The fact that youths who have deficits in reading are disproportionately represented in correctional institutions suggests that the juvenile justice system has become the default system for many youths who have reading problems. (p. 148)

Failing to support students who struggle to read early in school can increase the risk of incarceration of youth and adults. The prevalence of dyslexia for adult inmates is more than double that of the general population: roughly 48% of Texas prisoners have dyslexia versus the national average of 20% (Moody et al., 2000). An earlier study found that 7 out of 10 prisoners had difficulties in reading, and 23% experienced extreme difficulties (NCES, 1994). While no such study has been conducted in Oklahoma, one could assume these statistics are very similar.-

Polacco (2012) did learn to read. When she started fifth grade there was a teacher who knew that she learned a little differently and knew just how to teach her to read, his name was Mr. Falker. Lauver's (2011) struggles did not end after exiting high school, but he eventually became a successful businessman, owning his own painting business, despite his inability to read. It was when Lauver was 27 years old that his life started to turn around. A professor who asked Lauver to write directions down realized that Lauver could not read or write and took the time to ask him about his academic difficulties. The professor then asked Lauver if he had ever heard of dyslexia, a term Lauver had never heard of before. He then led Lauver to the person who would teach him to read.

Identification of dyslexia is the first step to getting students the instruction they need; the earlier, the better. Lauver (2011) could have learned to read long before he did, and this potentially would have changed his life dramatically if interventions had been put into place earlier. Hall and Moats (1999) pointed out that early identification of dyslexia is vital because if students do not receive dyslexia interventions by the age of eight years old, a high percentage of these students will continue to struggle with academics. Research supports early identification and remediation for all learning variations, including variations in reading (Shaywitz, 2003; Hall & Moats, 1999). Providing support and services to students who struggle with academics is essential. Unfortunately, for Oklahoma students, early identification of dyslexia is not common.

Even though Oklahoma State Department of Education provided some dyslexia specific training during the 2018-19 school year, elementary teachers were not required to attend focused training on dyslexia. Nor had Oklahoma adopted a protocol for diagnosing students with dyslexia to facilitate early identification. Suppose a student has a diagnosis of

dyslexia, in that case, it is typically because parents have paid for additional testing outside of the school setting by a private practitioner, which can be very costly. Because the Individuals with Disabilities Education Act (IDEA) only uses the term Specific Learning Disability (SLD) and is not dyslexic specific, many teachers do not use the appropriate teaching strategies needed for these students. Parents are faced with watching their child fail or paying high tutoring fees to an outside source. This failure to acknowledge students with dyslexia has severe implications for Oklahoma students and their families.

Teachers are expected to tailor instruction to their students' academic needs. Those decisions are based on assessments, observations, curricular and instructional knowledge, and perceptions of a students' abilities. Misperceptions can occur when teachers are not knowledgeable about learning disabilities or stereotype students, resulting in unknowingly reducing expectations for their students (IRIS, 2019). For example, when teachers perceive students with dyslexia as less capable or not as smart as their peers, they will likely reduce what is expected of them (Shaywitz, 2003; Worthy et al., 2018). Further illustrating the impact of teacher perceptions of dyslexia resulted from a study where teachers were asked to evaluate students' writing products. The papers were labeled as being completed by students with dyslexia and students without the disorder. The teachers assigned lower writing scores to the work identified as being completed by students with dyslexia than those given for papers completed by students without dyslexia (Hornstra et al., 2010). "Such misconceptions may not only influence individual attitudes and perceptions of children...but may also have unintended consequences on the child's academics…" (Castello & Gilgor, 2018, p. 204). Teachers can only respond to students with what they know; when there is a lack of

knowledge about dyslexia, the right evidence-based practices will likely not be put into place.

There are not only misconceptions about students with dyslexia and their academic abilities but also with understanding the behavioral, biological, and genetic factors that cause dyslexia (Furnham, 2013). Teachers may not be aware of the varied causes of dyslexia, including neurological and genetic implications (Furnham, 2013). The three-stage causal model developed by Morton and Frith (1995) described the relationships between the biological, behavioral, and cognitive elements of dyslexia. These three facets can also be affected by a student's environment; awareness of this model can help teachers better accommodate these students and to implement effective instructional practices and strategies.

It is important to note that teachers can only respond to what they know. What teachers employ in their ~~own~~ classrooms during reading instruction is directly linked to their knowledge and understanding of the content and the components of linguistics (Joshi et al., 2009; Moats, 2009; Lopes et al., 2014; Moats & Foorman, 2003; Spear-Swerling, 2007; Spear-Swerling et al., 2005; Washburn, Joshi, & Binks-Cantrell, 2011). Teachers can gain knowledge through professional development opportunities; however, until recent legislation, HB1228, which has now been approved by the Senate and signed into law by Oklahoma Governor Stitt (Oklahoma State Legislation, 2019), these opportunities for more effective professional development in dyslexia had been minimal (Soriano-Ferrer, Echegaray-Bengoa, & Joshi, 2015).

Teachers can better support students with dyslexia when they understand their students' reading needs, advocate for their students' needs, and build positive relationships between students and their families. These teachers make a difference every day in the

classroom; however, when there is confusion, a lack of understanding of the characteristics of dyslexia, and how to implement evidence-based instructional strategies, students with dyslexia are not served in ways that will bridge reading gaps and build self-efficacy. Shaywitz (2003) notes, "A child with dyslexia is in need of a champion, someone who will be his support...his cheerleader...his advocate...his friend" (loc. 2875-2883). Like Polacco and Lauver, it only takes one teacher to make a difference for a student who has dyslexia.

Statement of the Problem

Dyslexia affects approximately 20% of the K-12 school population and crosses gender, socioeconomic status, and nationality (IDA, 2017). Early identification and appropriate interventions are vital for students with dyslexia and must be in place for them to increase their reading abilities and succeed in school. Oklahoma educators have an opportunity to help these students in their classrooms but may not have the knowledge and skills necessary. It is important to understand what teachers think about dyslexia, its characteristics, and the teaching strategies that are effective for addressing this severe reading disability.

Purpose of the Study

This qualitative study explored six Oklahoma public school educators' perceptions of dyslexia and identify the instructional strategies they currently use in the classroom to help their students who have dyslexia. This exploration was conducted through the lens of causal model (Morton & Frith, 1995) and the Framework for Understanding Dyslexia (DES, 2004).

Research Questions

1. How do selected Oklahoma elementary educators perceive dyslexia?

2. What characteristics do selected Oklahoma elementary educators associate with students who have dyslexia?
3. What instructional strategies do selected Oklahoma elementary educators use in their classrooms for students with dyslexia?

Epistemological Perspective

Epistemology was defined by Blaikie (2000) as "the possible ways of gaining knowledge of social reality, whatever it is understood to be" (p. 8). There are three kinds of epistemology; these are objectivism, constructionism, and subjectivism. Objectivism posits that knowledge exists even if people do not know it is there. Constructionism is the belief that people gain knowledge through interacting with the world around them. The belief that all people's understanding of a phenomenon is different is called subjectivism (Crotty, 1998).

Theoretical Perspective

This study explored six Oklahoma elementary educators' perceptions of dyslexia. This analysis helped to identify and compare significant meanings between the knowledge and beliefs of dyslexia. This study involved interpreting the participants' perceptions through structured interviews. I interpreted the participants' perceptions and instructional strategies used in the classroom, under the theoretical perspective of interpretivism. This construct of meaning correlated with the study's epistemology of constructionism and the interpretations I made paralleled the theoretical perspective. The relationship between constructionism and interpretivism helped to validate this research. Max Weber described this as *verstehen* or understanding the human or social sciences (Crotty, 1998). This research aimed to gain a better "understanding" of the perceptions that Oklahoma elementary educators have in regard to dyslexia and how they

implemented instructional strategies in their classrooms to assist students who had this reading disability.

Methods

In qualitative research, there are many types of methods utilized in a study. A content analysis is one method used, Patton (2002) describes a content analysis as, "any qualitative data reduction and sense-making effort that takes a volume of qualitative material and attempts to identify core consistencies and meanings" (p. 453). This approach is conventional in nature and data is gathered through open ended questions and probing (Fraenkel & Wallen, 2006). Content analysis is inductive and does not start with themes but rather themes are identified after data is collected (Patton, 2002). The purpose of this content analysis is, "to provide knowledge and understanding of the phenomenon under study" (Downe-Wamboldt, 1992, p. 314). To better understand the complexity of selected Oklahoma educator perceptions and fully understand how they make instructional decisions based upon their perceptions and understanding of dyslexia, interviews were conducted. Once data collection was complete, an analysis of the data was used, categories were created and exploration of causal relationships using the causal model was completed (Morton & Frith, 1995); Framework for Understanding Dyslexia (DES, 2004).

Understanding Dyslexia, Causal Model as Theoretical Framework

Understanding what dyslexia is and what causes this disorder to be so complex is important for all who educate children (DES, 2004). Known as a "causal modeling framework" (Frith, 1997), this framework, widely used, suggests that there are three levels or "frames" of description, for dyslexia: "biological" which consists of genetics and neurology; "cognitive" which is the processing of information; and "behavioral" which are primary

characteristics such as reading and spelling (DES, 2004, p. 35). Using the framework for understanding dyslexia, I hoped to evaluate assumptions and explain the phenomena so greater knowledge and understanding of the phenomena can be ascertained. According to Merriam and Tisdell (2016):

> The sense we make of the data we collect is equally influenced by the theoretical framework. That is, our analysis and interpretation—our study's findings—will reflect the constructs, concepts, language, models and theories that structured the study in the first place. (p. 88)

The causal model, like the framework for understanding dyslexia, is not just descriptive, only looking at one aspect, but rather takes into consideration all levels (biological, cognitive, and behavioral) of the framework (Morton & Frith, 1995). Only when taking into consideration, all factors associated with dyslexia can one truly understand the disorder. Frith (1999) noted:

> The definition and explanation of dyslexia have long been problematic. A causal modelling framework involving three levels of description—behavioural, cognitive and biological—can solve some seemingly intractable problems and confusions. When all these factors are considered together, paradoxes disappear. (p. 192)

Dyslexia can be defined as a neurodevelopmental disorder with a biological origin and behavioral signs that often extend far beyond problems with written language (International Dyslexia Association, IDA, 2012). At the cognitive level, putative causes of the conditions behavioral signs and symptoms can be specified. At all three levels, interactions with cultural influences occur. These influences have a major impact on the clinical manifestation of dyslexia, the difficulties experienced, and the possibilities for

remediation for those who have dyslexia. When all these factors are considered together, fallacies disappear and a satisfactory definition and understanding of dyslexia can be achieved.

To better understand the causal model, or the Framework for Understanding Dyslexia, one must consider the underlying theories of dyslexia as important; these are biological, cognitive, and behavioral. The study of genetic and neurobiological sciences has determined that dyslexia is a brain-based disorder that is complex and multifaceted (Kelly & Phillips, 2016). That is, the causal model framework corresponds with these multiple causations for the development of dyslexia. Using the Framework for Understanding Dyslexia, which mirrors Frith's (1999) causal model allowed me to guide the process through understanding how selected Oklahoma educators perceive dyslexia and how that impacts their instructional decision making.

Procedures

I explored selected Oklahoma public school elementary educators' perceptions of dyslexia and the instructional strategies they currently use in the classroom to help their students who have dyslexia. This exploration was governed through the lens of causal model; qualitative methods for this content analysis was used to collect data. Artifacts collected and interviews conducted during this study were analyzed and compared for similarities and differences. The aggregation of the data collected helped to determine themes and consistencies.

Data Sources

Structured interviews were conducted with six current Oklahoma elementary educators who teach in K-3rd grade classrooms. The specific participants were chosen

because of their amount of time teaching and the variance of grade levels, thus giving me a broad spectrum of perceptions that may or may not differ from one another. Sargeant (2012) indicated that sample size need only be enough to identify concepts until new concepts can no longer be elicited through new interviews; once you do this you have reached data saturation (Urquhart, 2013).

Data Collection

Having protocols in place for conducting interviews and collecting artifacts are highly recommended (Creswell, 1998). For this study, I used an interview guide to conduct face-to-face interviews with six Oklahoma elementary educators. The selection of participants were purposeful; participants were current K-3rd grade educators working in an Oklahoma public school. The face-to-face interviews included open-ended questions to minimize variation.

Triangulation was another method utilized to analyze and confirm data. Data was gathered and compared from multiple sources. After reviewing all the information from the data collected, from both the interviews and artifacts, I was able to gain a better understanding of selected Oklahoma educators' perceptions of dyslexia and the instructional choices they made.

Data Analysis Strategies

Only after interviewing participants and studying artifacts can the analysis of familiar paradigms of all the data be completed. By doing this, I was able to establish several related connections between the participants. Coding the data by taking notes and putting similar information into groups based on specific themes helped me to dissect and separate commonalities.

Assumptions, Limitations, and Scope

One limitation of this research study was the ability to generalize findings; this study focused on the perceptions of just six elementary teachers who teach; two participants taught in one large school district; and four participants taught in one mid-sized school. Therefore, the sample size was not generalizable. Another limitation of this study was time. Due to this study's timeframe, I was not be able to delay the study in order to conduct multiple interviews with each participant or conduct observations. Not being able to observe the reading instruction of these six participants due to COVID 19 was an unexpected limitation.

Significance of this Study

The study results provided some insights into Oklahoma elementary educators' perceptions of dyslexia, and they determined teaching practices for students who are believed to have dyslexia. It is with great hope that the information obtained in this study will be used to help Oklahoma educators better understand and acknowledge the complexities of dyslexia and to influence the identification of appropriate professional development opportunities for educators.

To Research

With great hope, the research conducted through this study will contribute to current research in Oklahoma involving students with dyslexia. According to Webster and Watson (2002), "a review of prior, relevant literature is an essential feature of any academic project. An effective review creates a firm foundation for advancing knowledge" (p. xiii). However, when gaps in literature exist, the foundations built upon this pretense will only crumble. Progress cannot be made without carefully examining where weaknesses and

gaps in research and practice exist that contribute to the lack of recognition, diagnosis, and early intervention for students with dyslexia. This exploration should help to augment the current stock of knowledge about the perceptions selected Oklahoma elementary educators have about dyslexia and the current pedagogical practices they employ with these students

To Theory

This research will help to add to the current knowledge of causal model in relation to the development of dyslexia. Much research exists that describe the causal model; however, a small amount of research is found that discusses the causal model relating to dyslexia. "A causal structure serves as a blueprint...a precise specification of *how* each variable is influenced," (Pearl & Verma, 1995). By exploring the causal model and the relationships that correlate behavior, cognitive, and biological factors as the three agents in the development of dyslexia, the research will help connect the variables that coexist.

To Practice

This study may contribute to the development of training for current and future Oklahoma educators in reading instruction for students with dyslexia. This study will lend a hand toward justifying the need for more educators who have had extensive training in the area of reading, such as reading specialists, to be employed by every school. In addition, this research study may help to contribute to the recognition of dyslexia as a unique disorder, beyond the SLD umbrella, where it currently lies. This recognition will lead to the development of effective practices current Oklahoma educators can use during the reading instruction for students with dyslexia.

Definition of Terms

Causation – mutual shaping that is simultaneous (Lincoln & Guba, 1985).

Disability – A physical, sensory, cognitive, or affective impairment that causes the student to need special education and related services (Dictionary of Education, 2011).

Dyslexia – According to the International Dyslexia Association (2002), "Dyslexia is a specific learning disability that is neurological in origin. It is characterized by difficulties with accurate and/or fluent word recognition, and by poor spelling and decoding abilities."

Individuals with Disabilities Education Act of 2004 (IDEA) – A federal law that guarantees a free and appropriate public education (FAPE) for eligible children and youth with disabilities (Dictionary of Education, 2011).

Inclusion –The practice of educating children in the general education classroom, including children with physical, mental, and developmental disabilities. In order to meet the individual needs of the student, it is often necessary to provide additional supports in the general education classroom (Dictionary of Education, 2011).

Least Restrictive Environment (LRE) – Commonly refers to removing a student from the general education environment as little as possible by providing specially designed instruction and supplementary aids and services in the general education classroom to the maximum extent appropriate for the student (Dictionary of Education, 2011).

Perception – a judgment resulting from awareness or understanding (Webster's Online Dictionary, 2019).

Special Education – Instruction provided for students with disabilities according to the requirements of the federal Individuals with Disabilities Education Act (IDEA) (Dictionary of Education, 2011).

Specific Learning Disability – A disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, that may manifest

> itself in the imperfect ability to listen, think, speak, read, write, spell, or to do mathematical calculations, including conditions such as perceptual disabilities, brain injury, minimal brain dysfunction, dyslexia, and developmental aphasia. (IDEIA, 1994, Sec. 300.8)

Summary and Organization of Study

The need to examine the perceptions of selected Oklahoma educators of dyslexia and the pedagogical choices they are currently making in their classroom was evident. It is essential for Oklahoma educators to become more knowledgeable of dyslexia and the effective instructional practices that are effective with children who have dyslexia; the shaping of current Oklahoma educators into reading experts will positively contribute to increasing literacy rates for students with dyslexia. All is vital to the success of future Oklahoma students and citizens.

This study consists of five chapters. Chapter I chronicles statement of the problem, research questions, epistemological and theoretical perspectives, methods, theoretical framework, and significance of the study. Chapter II consists of a literature review of dyslexia. Chapter III details the methodology and methods used to collect data. In Chapter IV data is presented. Chapter V gives a discussion of the analysis from the findings of the study and how it impacts future research.

CHAPTER II

LITERATURE REVIEW

Nelson Mandela (2003) once said, “Education is the most powerful weapon which you can use to change the world.” Most educators spend tireless hours preparing materials to support their students’ academic progress, but a consistent pattern of failure exists for Oklahoma students who have reading difficulties (NCES, 2002, 2003, 2017, 2018). Some students who have difficulty with reading acquisition are diagnosed as having a Specific Learning Disability (SLD) in reading. One of the most common SLDs, especially when severe reading difficulties are present, is dyslexia; roughly 80% of students who have been diagnosed with SLD have this type of reading variation (APA, 2016).

The prevalence of dyslexia affects roughly 20% of the population (IDA, 2019; Wegner, Poon, & Macias, 2012). With one in five students being identified with dyslexia, it is likely everyone knows someone with this disorder. This is especially true for those teachers working in elementary schools. Considered a specific learning disability in reading, dyslexia makes it difficult for students to acquire developmental reading skills at the same rate as their peers. Besides the academic difficulties, these students experience many challenges such as anxiety, lowered self-esteem, and learned helplessness

(Dyslexia SA, 2015). Like others with specific learning disabilities, students with dyslexia are often overlooked because the disability is not identifiable just by looking at the person who has it (Gargiulo & Metcalf, 2017). Someone with dyslexia looks just like everyone else, has average or above-average intelligence but will struggle to keep up with grade-level academics (LDAA, 2016). Those who have dyslexia have varying reading levels even though they have had the same reading instruction as their progressing peers. Not all students with reading difficulties have dyslexia; assessing the student's reading, writing, and language skills is imperative for a dyslexia diagnosis (IDA, DITC-Handbook, 2017).

This literature review helps to answer many questions about dyslexia. Factors addressed include the definition, history, characteristics, and causes of dyslexia and how perceptions of dyslexia play a role in the instructional decisions that selected Oklahoma educators make and how teachers can support students. Exploring the elements listed above for students with dyslexia in K-3rd grade public school systems in Oklahoma is significant to future student improvements. Ultimately, these students' future success in becoming proficient readers.

Dyslexia

Research continues to identify more effective diagnostic processes and instructional strategies for students with dyslexia. Despite this, teachers are often uninformed about effective methods and are less effective in working with these students (Shaywitz, 2003). Knowing what causes dyslexia, how this disability affects the student, and how to help these students is of the utmost importance.

Defining Dyslexia

Researchers from a wide range of disciplines are involved in the study of reading disorders and, specifically, dyslexia; this has resulted in the definition of dyslexia expressed as multiple varying definitions with no final agreed-upon language. Early pioneers and recent researchers have attempted to more clearly define dyslexia and its complexities with limited success with disagreements among experts today (Wixson & Lipson, 1991). Even though specialists in the field have yet to settle on one definition or cause of dyslexia, studies have helped describe what dyslexia is and what it is not.

One way to define dyslexia is by its origins. According to the Online Etymology Dictionary (2016) the Greek word dys- means having difficulty and lexia means word(s); thus, dyslexia means having difficulty with words. A definition by the National Institute of Neurological Disorders and Stroke (2019) noted that dyslexia was a disorder that is neurological in origin, is hereditary, has no explanation as to why a difficulty in reading exists such as student's ability or provision of effective instruction, and includes common characteristics among those who have dyslexia. However, the most accepted definition is provided by IDA (2002):

> 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. Secondary consequences may include problems in reading

> comprehension and reduced reading experience that can impede growth of vocabulary and background knowledge. (*Definitions of Dyslexia*, para. 1)

Gaining the most support from dyslexia experts (IDA, 2002; Peterson & Pennington, 2015; Siegel, 2006; Shaywitz, 2003), this acknowledgment and definition of dyslexia helps to drive the delivery of specialized training to teachers and the implementation of effective instructional strategies specific to students who have dyslexia diagnosis. For the purpose of this research study, this definition provided by IDA (2002) was used. Even with this highly recognized definition, it is important to note that many researchers studying dyslexia will encounter differing definitions.

History of Dyslexia

Understanding the early efforts to identify reading disorders and dyslexia, is essential. The study of reading and individual differences began in the nineteenth century when scientists began to explore the individual differences in reading abilities among students. One of the first terms used in the late nineteenth century to describe what is now known as dyslexia was "word-blindness," this term was coined by Kussmaul (Kirby, 2018). Morgan (1896) also used this term when describing a 14-year-old who lacked necessary reading abilities without any explanation of the cause. The term "word-blindness" was used to reflect a student's reading deficits due to reasons beyond intelligence. Ophthalmologist Rudolf Berlin soon followed in research and is known for first using the term dyslexia (Kirby, 2018). Berlin thought dyslexia was a more fitting term due to the literature being published at that time. As dyslexia research increased, the focus on describing these individuals' deficits and strengths more accurately began,

including determining the correlation between dyslexia and intelligence predictors. Soon other professionals started studying students' difficulties in reading.

In the early 1900s, French psychologist Alfred Binet began his groundbreaking work on using a standardized testing process to identify children who needed instructional remediation (Spiro & Myers, 1984). His early work was later turned into the Stanford Binet Intelligence Scale, which has been widely used to predict student learning potential. The development of intelligence tests caused some confusion as to why students who tested with higher abilities continued to have reading difficulties. While initially, researchers at that time speculated that students with low intelligence were the ones who experienced problems with reading acquisition, Binet's intelligence test was the first to debunk this belief. Standardized intelligence tests successfully identified children who m*a*y have problems with reading acquisition (Pearson et al., 1984). Gates and Monroe's research led to the label of "backward" readers referencing students who had average intelligence but struggled to read (Wixson & Lipson, 1991, p. 543). These studies ultimately led to the belief that a constellation of factors, rather than one isolated factor, was the culprit of developing a reading disability (Pearson et al,. 1984; Spiro & Myers, 1984; Wixson & Lipson, 1991). Early attempts to identify reading readiness factors included socioeconomic status, race, auditory and visual preferences, and the ability to speak; these factors were considered as indicators of reading potential. Other components essential for reading acquisition were identified, including intelligence, exposure to instructional approaches, overall reading skills, reading proficiency, patterns or errors and miscues, and information processing (Spiro & Meyers, 1984). All these

components were linked to the probability of reading and the likelihood of student success.

One of the first known physicians to study this disorder was Albert Galaburda (Wixson & Lipson, 1991, p. 540). Galaburda's research looked at the brain using a multidisciplinary approach (Fisher-Landau, 2016). His research included "genetics, cell and molecular biology, neuroanatomy, neurophysiology, neuroimaging, and behavior in animal models of abnormal development of the cerebral cortex" (Fisher-Landau, 2016, para. 1). He concluded that dyslexia could be seen as anomalies in the brain structures of those who have dyslexia. But it was Myklebust who linked reading disabilities to language disorders and the beginning of the field of study we know today as dyslexia (Wixson & Lipson, 1991).

The development of reading specific assessments also occurred during this time. Thorndike developed silent reading tests and Gray developed oral reading tests, but the reading measures differed greatly depending on the researchers' views (Wixson & Lipson, 1991). For example, early studies found many different codes used in language; semantic, phonological, and syntactic-grammatical codes. It did not take long for professionals in the US to start conducting their own research over dyslexia.

Bruner was the first to publish a report on children's reading difficulties (Morin, 2014). Bruner's paper described childhood reading problems as "real" problems within society. Soon after, Samuel Orton would be known for his research and writings about dyslexia (Kirby, 2018). Orton stressed the need for educators to teach phonics to students with dyslexia and later recognized and wrote about the need for multisensory instruction (Orton & Gillingham, 2018). After Orton's death, his wife would start the Orton Society,

which helped lead the way to the development of a dyslexia organization known today as the International Dyslexia Association (IDA, 2019).

There is no consensus in the etiology of reading disabilities, even though there has been a great deal of research over the years (Wixson & Lipson, 1991). Although there is still much to learn, the research to date does help guide researchers today to understand a reading disability like dyslexia better. "Theories situated within the three-level framework have the potential to unify ideas on the causation and remediation of this fascinating condition," added Frith (1999, p. 211). Educators who understand dyslexia, how it occurs, identifying associated characteristics, can provide effective strategies that work for their students who have dyslexia.

Identification and Diagnosis of Dyslexia

While there are many different ways to describe and define dyslexia, when considering a child with dyslexia for special education, dyslexia is subsumed under the category SLD. Continuing this trend in other disciplines, the Diagnostic and Statistical Manual of Mental Disorders, fifth edition (DSM-V) (2013), dyslexia is also subsumed under the category of SLD, just as it appears in Individuals with Disabilities Education Improvement Act (IDEA). Still, the term dyslexia is also referred as an alternate term for SLD. It is important to note, in a colleague letter sent by Yudin (2015) from the United States Department of Education, Department of Special Education and Rehabilitative Services (2015) suggested stakeholders such as Local Education Agencies, teachers, administrators to review their current policies and to not exclude the use of the term dyslexia when developing Individualized Education Programs (IEPs) and considering instructional interventions.

In the US, children diagnosed with reading disorders are provided educational services by their school. Addressed by the IDEIA (1994) or Public Law 91-142, dyslexia is included within the category of Specific Learning Disability (SLD). IDEA currently described a Specific Learning Disability as:

> A disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, that may manifest itself in the imperfect ability to listen, think, speak, read, write, spell, or to do mathematical calculations, including conditions such as perceptual disabilities, brain injury, minimal brain dysfunction, dyslexia, and developmental aphasia. (IDEIA, 1994, Sec. 300.8)

For a student to get a diagnosis of SLD in reading, he or she must exhibit difficulties that fall within one of the following broad categories: difficulty with comprehension, difficulty with writing, or difficulty with spelling (APA, 2016). Effective diagnostic processes must be followed to effectively identify students who have dyslexia and require specialized instruction to improve their reading skills.

When determining a student's eligibility for special education services under the SLD category, qualified examiners will typically use one of two approaches: the discrepancy model or Response to Intervention (RTI). The discrepancy model involves using standardized assessments to determine a student's Intelligence Quotient (IQ) and general academic performance, then comparing those scores to determine if a statistically significant discrepancy between predicted intelligence and academic performance exists (IRIS, 2019). RTI is a multi-tiered intervention program used to identify and provide interventions to students based on initial benchmark assessments (Hoover, 2010).

Assessing students for dyslexia beyond the SLD term is more comprehensive. To identify dyslexia, assessments focus on gathering evidence of reading difficulties, measuring the discrepancy in the student's ability and reading achievement compared to the same age/grade peers, and proof of phonological deficits. This process must be conducted by someone with specialized training (Shaywitz, 2003), such as a school psychologist or school psychometrist. To complete the comprehensive assessment, the assessor uses diagnostic procedures to collect evidence of the student's phonological awareness and memory, vocabulary, word reading speed, phonetic abilities, decoding skills, reading fluency, written expression, and spelling (IDA, 2017; Shaywitz, 2003). Also, students should be evaluated for other health problems, including hearing and vision in order to rule out other underlying conditions that may present as dyslexia (Shaywitz, 2003).

Early identification is key in making sure students with dyslexia get effective reading instruction to breach those literacy gaps. Intervention should occur at a young age when students' brains are highly moldable (Shaywitz, 2003). The difficulties many face can be anywhere from minor to severe as this disorder exists on a spectrum. Some researchers believe dyslexia is a difference in cognitive processes that presents real challenges for those who have been diagnosed (Reid, 2008; Schneps, 2015). These challenges include memory, speed with reading, and processing affecting the individual's ability to learn reading skills in a typical manner.

Dyslexia can be identified by a student's inability to read fluently or accurately (Peterson & Pennington, 2015; Shaywitz, 2003; IDA, 2002). Identifying this disability's presence is a key step to improving the student's academic future and requires an array of assessments. A comprehensive evaluation of phonological skills can be administered as

early as the second half of Kindergarten (Shaywitz, 2003). Young students suspected of dyslexia will be given an extensive set of diagnostic procedures to determine their literacy skills and deficits, including phonological awareness and phonemic awareness. In older students, assessments will address phonological awareness, phonological or language based memory, rapid automatic naming, receptive vocabulary, phonics skills, decoding, oral reading fluency, spelling, writing, and math (IDA, 2017, para. 3). In addition to collecting student performance data, the student's personal, family and medical history are collected to help develop a holistic understanding. The comprehensive assessment process must be completed by a trained professional who is knowledgeable of dyslexia such as psychologists and reading specialists (Shaywitz, 2003). Once a student is identified, educators can then provide specially designed instruction that will strengthen their students' reading abilities.

Dyslexia as a Causal Model: Three Key Elements

Teachers use theories to direct their teaching; that is what education has been built upon (Wilson & Peterson, 2006). Teachers are either self-directed or encouraged by their administrators and colleagues to become better teachers and hone their craft, especially in the area of reading instruction. Theories in education help to do this by explaining a phenomenon that educates teachers to be more knowledgeable of and become better equipped to determine how a student learns best (Higgs, 2013). Knowing how students differ in their learning and engaging students in the learning process that benefits them the most is imperative, especially for students with dyslexia, to become skilled readers.

Frith (1999) developed a theory for dyslexia and identified three causal areas: cognitive, biological, and behavioral (Morton & Frith, 1993; 1995). Frith (1999) points

out, “For a full understanding of dyslexia we need to link together the three levels and consider the impact of cultural factors which can aggravate or ameliorate the condition” (p. 211). Causal model helps to link the three elements and provides some valuable insight into each factor related to the development of dyslexia (Frith, 1999; Shaywitz, 2003). The causal model explains why dyslexia is considered on a spectrum where students exhibit varying deficits that range from mild to severe (Snowling & Hayiou-Thomas, 2006). This theory will assist teachers in better identifying and remediating students who have dyslexia.

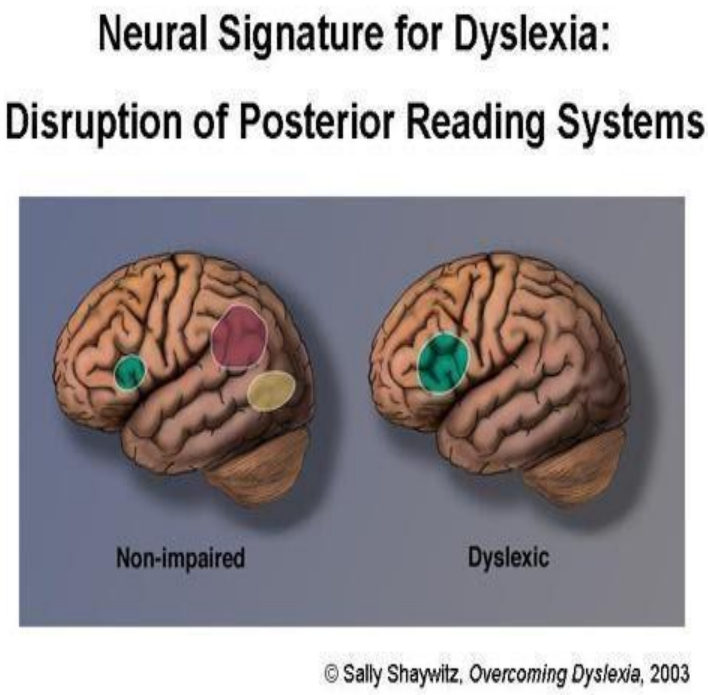
Cognitive

The cognitive manifestation of dyslexia can be found in distinct regions of the brain (Wegner, Poon, & Macias, 2012). Neuroimaging has shown weaknesses in the brain’s right hemisphere for those who have dyslexia (Wegner, Poon, & Macias, 2012). This weakness can affect spatial cognition, which assists with use of organization, retrieval, and application when reading, spelling, and writing. It can also affect visuoperceptual abilities that involve organization and understanding what is read and copied (Wegner, Poon, & Macias, 2012).

Using neuroimaging, cognitive studies have also shown who is and who is not likely to develop dyslexia (Shaywitz, 2003). Below, Figure 1, is an image of the activity centers in the brain of someone with dyslexia and someone who doesn’t have dyslexia (Shawitz, 2003).

Figure 1

Neural Signature for Dyslexia



Brains are very complex and can have imperfections that result in mild to severe impairments that interfere with reading acquisition (Shaywitz, 2003); these imperfections affect the brain's cognitive processes. Teachers who know and understand the neurological differences between students who have dyslexia and students without dyslexia will be able to intervene appropriately. However, when teachers do not have a solid understanding of dyslexia, misconceptions can exist, thus impacting how teachers provide interventions (Washburn, Joshi, & Binks-Cantrell, 2011); one such misconception is that teachers perceive dyslexia as a vision issue rather than difficulty with phonemic awareness (Washburn, Joshi, & Binks-Cantrell, 2011).

Biological

Genetics also plays a role in the manifestation of dyslexia (Frith, 1999; Schumacher et al., 2007; Shaywitz, 2003; NINDS, 2019; Wegner, Poon, & Macias, 2012). "Dyslexia is regarded as a neurobiological condition that is genetic in origin. This means that individuals can inherit this condition and it affects the performance of the neurological system (specifically, the parts of the brain responsible for learning to read)" (Schultz, 2008, para. 1). As a matter of fact, genetics has been described as the most significant risk factor (Shaywitz, 2003; Schumacher et al., 2007). Galaburda et al. (2006) identified four specific genes involved in developmental processes and, ultimately, dyslexia. Recognizing the immediate family member who also has dyslexia is quite common (Schultz, 2008). The chances are great that a parent, grandparent, aunt, or uncle has a dyslexia diagnosis (IDA, 2019). However, because genetics are so complex, ascribing correlations of genetics to reading abilities or inabilities is not an easy task (Carrion-Castillo, Franke, & Fisher (2013). Despite that, the connection to genetics and dyslexia cannot be ignored. "We [researchers] will need to step into the brain, trying to understand the effects of dyslexia candidate genes…as well as how these relate to the behavioural traits on which dyslexia is defined" reported Carrion-Castillo, Franke, and Fisherman (2013, p. 231). These links to specific genes have proven a cognitive and biological relationship to the development of dyslexia. Teachers who can identify causal factors for students who potentially have dyslexia will be able to recognize potential risks of reading failure, especially for those students who have a family history of dyslexia.

Behavioral

Dyslexia is usually identified by the observable behaviors displayed by an individual. Behavioral aspects of dyslexia include mild to severe difficulties with reading, spelling, writing, and organizing thoughts (Department of Education and Skills, 2004). These difficulties are present despite average to above-average intelligence (Gargiulo, 2015; Peterson & Pennington, 2015; Shaywitz, 2003; Wegner, Poon, & Macias, 2012). Teachers who are knowledgeable of, and recognize, these characteristics will be able to identify students earlier. This early identification will help educators initiate evidence-based interventions and get students the help that they need.

Which characteristic educators should watch out for depends on the age of the student, Pre-K students in the reading readiness phase are developing an understanding of the letter-sound system or phonics, growing their vocabulary, and developing comprehension skills. Students with dyslexia will show difficulties with these skills. They may demonstrate problems with word recall, which involves being able to remember words we have heard or read previously, identifying and creating rhyming words such as rat and cat, have limited vocabulary knowledge, difficulty with pronouncing words correctly, and may have delayed speech (Gargiulo, 2015: IDA, 2019; Orton & Gillingham, 2018; Shaywitz, 2003). As they move into kindergarten through third grade, reading instruction focuses on moving them from the pre-reading to reading stage. This stage is characterized by the rapid growth and understanding of written language such as letters and words in print the development of reading fluency and speed. Those children exhibit difficulties with word segmentation, word identification, and spelling. For example, children with dyslexia will struggle to break words apart by

the sounds. Developing oral reading fluency and speed is also a key to reading growth. The rate at which a student reads with accuracy and expression, reading words in isolation, and spelling are all used as indicators of reading development. Students in fourth grade and above who have dyslexia continue to struggle to acquire those skills typically accomplished at those earlier reading instruction stages. This documented history of difficulties with reading and spelling, lack of willingness to read aloud, and very little to no interest in reading for fun are common behavioral characteristics of dyslexia (IDA, 2019; Orton & Gillingham, 2018; Shaywitz, 2003). Moreover, students who experience some of these characteristics will likely show frustration and higher anxiety levels at an accelerated rate compared to their peers who do not have dyslexia (Orton & Gillingham, 2018).

It is well noted that there are many common characteristics of students with dyslexia. The main commonality is their experience in difficulty with learning how to read. Educators can play a direct role in helping to identify these students by watching for common characteristics. Providing these students with appropriate reading instruction at the earliest sign of difficulty is likely to reduce the reading gaps often experienced by students with dyslexia and prevent other problems related to reading disorders. Once a student is identified as having dyslexia, educators can provide effective instruction to strengthen students' reading abilities. Still, identification and diagnosis are not an easy task for many to accomplish because of the complexities related with dyslexia. Some states. like Texas, mandate screening for dyslexia, but early identification is not currently mandatory in Oklahoma; therefore, understanding the causal model for dyslexia and having an increased awareness of dyslexia characteristics is critical in teachers

identifying these students who need specialized assistance. When educators are able to recognize these characteristics, they will be able to respond more precisely to students' instructional needs.

Identification of Dyslexia is multidimensional because there are a number of subtypes (Wixson & Lipson, 1991). Those subtypes share some characteristics but also have unique descriptors as well, making identification more challenging. Dyslexia subtypes include direct dyslexia, phonological dyslexia. primary dyslexia, semantic dyslexia. surface dyslexia, and trauma dyslexia (NASET, 2008). These subtypes' commonalities include unexplained difficulty with reading, writing, spelling, and reading comprehension, while differences include a spectrum of word attack skills, phonetic ability, and ability to memorize. A complete list and description of each subtype can be found in Appendix E. Regardless of what subtype of dyslexia a student may have, recognizing the characteristics of dyslexia is essential to providing the appropriate instruction and interventions for these students.

Dyslexia as a Strength

While this process tends to focus on what students cannot do, people with dyslexia are as complex and individualized as their peers. Shaywitz (2003) noted, "weakness is often surrounded by a sea of strengths: reasoning, problem solving, comprehension, concept formation, critical thinking, general knowledge and vocabulary" (p. 57). Primarily speaking, dyslexia is typically looked upon as a deficit in reading; there are many strengths that students with dyslexia possess. These strengths should be used as supports for increasing a student's literacy achievement. Many very accomplished people have self-identified as someone with dyslexia, including Richard

Branson, Charles Schwab, John Chambers, Paul Orfalea, and Henry Ford... (American Management Association, 2019; Guy, 2017). The American Management Association (2019) reported that roughly 35% of American entrepreneurs have dyslexia. One of the strengths that individuals with dyslexia report is the heightened ability to communicate and delegate when compared to their counterparts who do not have dyslexia (Logan, 2009).

Children's book author and gifted artist Patricia Polacco has the innate ability to draw her readers into her stories. She entices the love of reading for many students and gives hope for some who are in the same place as she was when she struggled to read and write. In his memoir, Nelson Lauver, recounts his experiences as a student with dyslexia in the public school system. Like many students today, he struggled to read at the very basic levels and graduated high school illiterate. He now provides inspiration and hope to adults who have gone through similar school systems. His ability to learn to read at the age of 27 proves that it is never too late to learn to read. Polacco, Lauver, and countless others are proof that ~~even~~ if one lacks reading proficiency, it is still possible to be a successful citizen. Imagine if these individuals had received the interventions and supports, they needed earlier, by a teacher who was knowledgeable of dyslexia, maybe their accomplishments would not have been as hard to attain, and maybe they would have excelled even more than they did.

Teacher Perceptions

"Teacher perceptions—the thoughts or mental images teachers have about their students—are shaped by their background knowledge and life experiences" (IRIS, 2019, p. 2). This recognition, or lack thereof, may play a role in ~~selected~~ Oklahoma educators'

perceptions of dyslexia and interfere with their pedagogy and practices within the classroom for students who have dyslexia. Teacher perceptions can play a huge role in the daily decisions they make in the classroom. For example, teachers' negative perceptions about the academic ability of students with dyslexia can impact "curricular and instructional" decisions made. These decisions affect students' "academic achievement"" (Hornstra et al., 2010, p. 2). The perceptions of educators are influenced by, among other things, education and experience. Providing in-depth professional development for educators on misconceptions, characteristics and effective instruction can help educators develop a better lens for dyslexia.

Dyslexia is multi-faceted; there is no single element that stands out for students who have dyslexia. Teachers should be made aware that success in reading relies on all systems working correctly; should any of these systems fail the probable success in reading is diminished dramatically. "The focus of early studies was on the establishment of diagnostic procedures, and the identification and/or prevention…these…were based on the assumption of multiple underlying causes…physical, social, psychological, and educational factors" stated Wixson and Lipson (1991, p. 543). These complex, multifaceted and laborious studies are entangled and meshed even more so today. That is, a multifaceted relationship to dyslexia has been identified and described in the causal model (Frith, 1999). Not knowing all the elements that encompass this disability will undoubtedly affect the way a teacher thinks about and approaches students with dyslexia. Education and training for preservice and in-service educators on dyslexia and perceptions about dyslexia are key to eliminating any misunderstandings. The importance

of providing training to teachers about their perceptions is just as important as providing training on effective interventions they can use in the classroom (Ferraro, 2000).

Perceptions can affect the pedagogical choices teachers make in their classrooms. Teachers who see dyslexia solely as a deficit rather than a learning difference can negatively affect the student. Rosenthal and Jacobson (1968) identified the "Rosenthal Effect," a phenomenon where the teacher who held high expectations for her students achieved more than the students whose teachers did not think their students should perform. Chang (2011) noted, "Even if the teacher expects high, false judgment of students...can lead to an astonishing result of poor gains of students" (p. 200). Not only can perceptions affect educator choices, their knowledge of dyslexia can also impact student performance.

Teachers' knowledge of what reading disabilities are and the characteristics evident when students have dyslexia helps influence the development of misconceptions (Moreau, 2014). Some misconceptions held by teachers include dyslexia is caused by visual perceptions, dyslexia involves words appearing backward, and frequent letter reversal (Washburn, Binks-Cantrell, and Joshi, 2013; Worthy et al., 2018). This lack of understanding fully what dyslexia is, it's characteristics, and causes can be detrimental for students who have dyslexia. This lack of understanding will likely lead to ineffective interventions and supports. Thus, professional development can debunk any misconceptions that teachers may have.

When students with dyslexia are supported appropriately, they develop "life skills, a sense of humour, a work ethic, alternative problem-solving approaches, and the ability to bounce back from disappointment" (Guy, 2017, p. 328). With more in-depth

knowledge about dyslexia and the proper strategies to use with these students, teachers can be great sources of support for them. Using appropriate instructional practices and identifying each child's individual literacy needs (Lin, 2001) are effective strategies to help teachers change their focus from students' reading failures to how to provide proper supports and individualization so that students can be successful in reading (Wolter, 2015). To do this, teachers must know the characteristics of a good reader and be able to identify the symptoms of struggling readers, collect specific data about their readers' abilities through assessment, and then develop appropriate, evidence-based interventions based on this data (Wolter, 2015).

Effective Instructional Practices for Students with Dyslexia.

Having dyslexia or dyslexic tendencies does not mean a student cannot make gains in literacy acquisition; however, for students who have a reading disability like dyslexia, attainment is much harder to accomplish than their typically developing readers. Teachers want to help their students but often feel inadequate in their knowledge of appropriate instructional strategies to use in their classrooms for students who struggle to read (Moreau, 2014). With appropriate training, many educators agreed that positive outcomes are resulting from the implementation of effective instructional strategies and reading skills develop, for students with dyslexia (Campbell, Helf, & Cooke, 2008; Joshi, Dahlgren, Boulware-Gooden, 2002; Oakland, Black, Stanford, Nussbaum, & Balise, 1998; Wegner, Poon, & Macias, 2012)). Using evidence-based practices helps increase students' proficiency in reading, motivation, and self-esteem (Roskos & Newman, 2014; Shaywitz, 2003). Having teachers implement effective instructional strategies (e.g., multi-sensory techniques) is imperative.

Use of a Structured Literacy Program

Instruction for students with dyslexia must be intensive, systematic, and direct (Birsh, 2011; Moats, 1999; Shaywitz, 2003; Uhry & Clark, 2004). The three principles for structured literacy are systematic and cumulative teaching, curriculum taught explicitly, and diagnostic assessments (Cowen, 2016; IDA, 2019). Diagnostic assessment is an important first step when working with students with dyslexia. "Diagnostic assessment is closely related to formative assessment. However, unlike formative assessment, which looks forward to considering next steps, diagnostic assessment looks back to understand the pupil's current position" (Council for the Curriculum, Examinations, and Assessment. 2015, para. 1). Researchers have expressed the importance of diagnostic assessment when using structured literacy programs (IDA, 2018; Shaywitz, 2003).

Explicit teaching really defines itself. It is teaching where every detail and step is explained by the teacher to the students and is done methodically. Systematic and cumulative materials follow a logical order of the language (IDA, 2019); begins with the easiest and most basic concepts, and is systematically reviewed to strengthen memory (IDA, 2019). Many structured literacy components include instruction of phonology, sound-symbol association, syllable instruction, morphology, syntax, and semantics (IDA, 2019). Phonology is the use of speech sounds in the creation of language (Delahunty & Garvey, 2010). Sound-symbol associations are between symbols, letters, and sounds (IDA, Effective Reading Instruction, 2019). Syllable instruction involves explicit teaching of the seven-syllable types. The use of word sorts is one strategy to teach syllable rules (Spear-Swerling, 2016). Morphology is defined as the study of words, how

they are formed, and the relationship of word use in spoken language (Brown, 2007). Syntax is a language skill that supports students' comprehension of a text (Brimo, Lund, Sapp, 2017). Semantics is the study of meaning in words and sentences (Merriam-Webster, 2019). All components intertwine with one another and students must be able to master these components to become successful readers (IDA, 2015; Shaywitz, 2003).

Structured literacy programs take into consideration of all principles listed above and are beneficial to students with dyslexia (IDA, 2019). There are nine principles of a structured literacy program: (a) instructional tasks are modeled, (b) when appropriate, explicit instruction is provided, (c) meaningful interactions with language occur during the lesson, (d) multiple opportunities are provided to practice instructional tasks, (e) corrective feedback is provided after initial student responses, (f) student effort is encouraged, (g) lesson engagement during teacher-led instruction is monitored, (h) lesson engagement during independent work is monitored, and (i) students successfully complete activities at a high criterion level of performance (IDA, 2018). Students with dyslexia show more reading progress when teachers follow these steps (Cowen, 2016). However, adding multisensory techniques to a structured literacy program has proven to be the icing on the cake (Shaywitz, 2003).

Use of Multisensory Techniques During Reading Instruction

Improvements in reading can be attained and maintained when learned through evidenced-based practices that include multisensory techniques (Shaywitz, 2003). There are many different approaches used for multisensory techniques. Multisensory or the Visual, Auditory, Kinesthetic and Textile (VAKT) approach to literacy instruction

focuses on the structure of language: Visual (what we see), Auditory (what we hear), Kinesthetic/Tactile (what we feel). According to Birsh (2019):

> Multisensory teaching and learning is a form of direct instruction of the phonologic, morphemic, semantic and syntactic layers of language. Multisensory strategies simultaneously involve visual, auditory, tactile-kinesthetic sensory systems, and/or articulatory-motor components while linking listening, speaking, reading and writing; this means it directly involves students in seeing, hearing, saying and writing during instruction" (p. 13).

Multisensory techniques benefit children, especially those who have dyslexia (Birsh, 2005; Fletcher, Lyons, Fuchs, & Barnes, 2007; IDA, 2016; Shaywitz, 2003; Schupack & Wilson, 1997). This technique uses all learning pathways in the brain (VAKT) simultaneously and sequentially to enhance memory and learning. One of the first multisensory programs was designed by Dr. Samuel Orton and Anna Gillingham, the Orton-Gillingham program, and is still used today, but is very expensive and requires extensive specialized training for the teacher.

Educators must use direct instruction, which teaches all concepts and always uses continuous student-teacher interaction. Instruction for students with dyslexia must not only be multisensory but must also be "explicit, direct, cumulative, intensive, and focused on the structure of language" (IDA, 2016, para. 1). Students who have dyslexia have differing brain pathways than that of the typical student, which causes difficulty with speech sounds and print (IDA, 2016). The multisensory approach helps students develop different pathways to the brain areas, helping them increase their reading abilities. The use of multiple modalities in unison helps students with dyslexia learn and retain

information (Birsh, 2011). During multisensory instruction, students can choose to actively participate by using all of their senses and body (Moats & Dakin, 2008). According to The International Dyslexia Association (2019) indicates research conducted by Birsh (2005), Fletcher, Lyons, Fuchs, & Barnes (2007), Shaywitz (2003), and Schupack & Wilson (1997) show that:

> Multisensory teaching is one important aspect of instruction for dyslexic students...Multisensory learning involves the use of visual, auditory, and kinesthetic-tactile pathways simultaneously to enhance memory and learning of written language. Links are consistently made between the visual (language we see), auditory (language we hear), and kinesthetic-tactile (language symbols we feel) pathways in learning to read and spell (Multisensory Structured, 2019, para. 1).

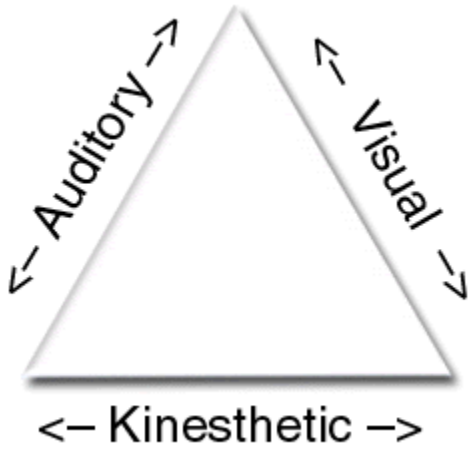
Much of the research on multisensory teaching has indicated value in this type of teaching for all students who have difficulties with reading, especially those who have dyslexic tendencies (NICHHD, 2020). It is evident that teachers should make learning an experience that uses multisensory techniques (Glazzard, 2010). A study found that when adding a multisensory component to supplemental reading programs, an increase in students' decoding nonsense words and oral fluency was observed (Campbell, Helf, & Cooke, 2008). Out of six students, five showed progress after taking the DIBELS assessment. Providing instruction based on students' learning styles has shown to be beneficial in increasing academic growth (Fisher, 2016). In addition, active engagement between multisensory activities creates a more conducive environment where student learning is intensified (Fisher, 2016).

In six of eight studies on multisensory use and spelling instruction positive correlations between use of multisensory techniques and spelling acquisition were reported (Bradley, 1981; Brown, 1988; Hulme & Bradley, 1988; Isaacson et al., 1987; Kearney & Drabman, 1993; Vaughan et al., 1993; as cited in Fulk & Stormont-Spurgin, 1995). It is important to note that the two studies that showed no growth did not use an auditory component (Vaughan et al., 1992; Vickery et al., 1987; as cited in Fulk & Stormont-Spurgin, 1995). Multisensory approaches to reading instruction are effective with students with dyslexia because they provide connections to each modality; the visual, auditory and kinesthetic (Oakland, Black, Stanford, Nussbaum, & Balise, 1998); without the auditory component, the effectiveness is weakened.

Findings of an experimental study using multisensory techniques in reading instruction conducted with first graders showed positive results (Joshi, Dahlgren, & Boulware-Goodin, 2002). The students who were taught through multisensory techniques made significant improvements in reading versus the control group who received no multisensory instruction. These students showed gains in "phonological awareness, decoding and reading comprehension" (p. 237). One of the many reasons why the multisensory technique works is the language triangle (Gillingham & Stillman, 1968). Figure 2 represents this triangle.

Figure 2

Language Triangle

	Language Triangle: The premise of this triangle is to show the associations between sounds and the development of words by using a multisensory approach that will help students to create links between these language associations (Gillingham & Stillman, 1968).

Gillingham & Stillman (1968)

The effectiveness of multisensory techniques has been proven to improve reading acquisition for many students who have dyslexia. The use of multiple senses, along with systematic and explicit instruction is the recipe for student success. Teachers who use the multisensory approach will indeed have students with dyslexia making improvements in their reading abilities.

Understood (2016), a nonprofit organization dedicated to helping parents who have children who struggle in academics, has listed eight multisensory techniques to teach reading. Multisensory techniques used for phonemic awareness can include techniques such as tapping out sounds using finger and thumb, clapping syllables, and using Elkonin boxes.

Many multisensory techniques include sounding out words while writing them with shaving cream or sand, sounding out words while writing them in the air, tracing

sandpaper letters while saying the sounds of each letter, and sounding out and building words with magnetic letters. Manipulating Play-doh or Wikki sticks into words or creating sight word towers using plastic cups are great for sight word identification. Saying sounds while tapping on a keyboard is another multisensory technique (Shaywitz, 2003). Using manipulatives such as pipe cleaner and letter beads, magnetic letters, and stamps coupled with sounding out the sounds in words are also great ways to make phonological awareness instruction multisensory.

Say-touch-spell words and using gestures for words that use consonant digraphs such as gesturing waves when using the digraph sh are also multisensory techniques for word identification (Center for Effective Reading Instruction, 2019; IDA, 2016). Other techniques include repeating letters as students say, copy, and write them, organizing letter patterns on cards into categories while saying the sounds of the letters or letter combinations, and looking in a mirror as they say sounds they see in print (IDA, 2019). Many of the techniques described above can overlap other areas of weaknesses. These techniques are great for spelling and vocabulary instruction. Also, incorporating hands-on activities during instruction will help to get students engaged in the learning process while also having fun doing these activities.

Summary

Dyslexia is a very complex condition, and those who have this disorder are often overlooked and provided inadequate interventions (Shaywitz, 2003). There are many effective strategies that teachers can implement to address the individual academic needs for students with dyslexia; teachers can use a structured literacy program (Birsh, 2011; Cowen, 2016; IDA, 2019; Moats, 1999; Shaywitz, 2003; Uhry & Clark, 2004) while

simultaneously using multisensory techniques (Joshi, Dahlgren, & Boulware-Goodin, 2002; IDA, 2016; Understood, 2016).

An in-depth look into current Oklahoma elementary educators' pedagogy and the perceptions of dyslexia they possess provided helpful information. Chapter Three provided a well-developed methodology and description of the study that took place. Sections in this next chapter include many topics, such as my role as a researcher, methodology used in the study design, how data was collected and analyzed, and limitations of the study will also be provided. Providing a description of the study will help readers understand the reasons for the methodology and the decisions that were made and help the reader visualize what happened as the study commenced.

CHAPTER III

METHODOLOGY

> Often qualitative researchers undertake a qualitative study because there is a lack of theory or an existing theory fails to adequately explain a phenomenon. Therefore, another important characteristic of qualitative research is that the process is inductive; that is researchers gather data to build concepts, hypothesis, or theories rather than deductively testing hypothesis…(Merriam & Tisdell, 1998, p. 17).

This chapter describes the methods utilized in the implementation, collection, and analysis of the data collected for this research study. Questions addressed in Chapter I were the primary focus for the development of this study and the rationale for methods used. The research design, participants, instruments used, collection of data, and analysis of data have been presented in this chapter.

Statement of the Problem

According to the International Dyslexia Association (2017) dyslexia is common and affects roughly 20% of the school population regardless of sex, socioeconomic status, or nationality. Not only is early identification and intervention important for students with dyslexia but appropriate interventions must be in place in order for them to increase

their reading abilities (Shaywitz, 2003). Educators have an opportunity to help these students in their classrooms, but how do their perceptions affect their pedagogical decisions when working with students with dyslexia?

Purpose and Research Questions

This qualitative study aimed to explore selected Oklahoma public elementary school educators' perceptions of dyslexia and identified the instructional strategies they have used in the classroom to help their students who have dyslexia. This exploration was governed through the lens of the causal model: Framework for Understanding Dyslexia. Before identifying the design of this research, the following research questions helped to guide and justify the adoption of certain methodology and methods used:

1. How do selected Oklahoma elementary educators perceive dyslexia?
2. What characteristics do Oklahoma elementary educators associate with students who have dyslexia?
3. What instructional strategies do Oklahoma elementary educators use in their classrooms for students with dyslexia?

These research questions were the heart of this research study and were used to guide me and lead me to meaningful, logical, and trustworthy conclusions.

Role of the Researcher

In qualitative research, there are many instruments used to collect and analyze data; one such instrument is the researcher (Patton, 2002; Guba & Lincoln, 1981; Zhang & Wildermuth, 2005); therefore, I referred to the researcher, myself, in first person. Patton (2002) notes, "In qualitative inquiry, the researcher is the instrument. The credibility of qualitative methods, therefore, hinges to a great extent on the skill,

competence, rigor, on the person doing fieldwork..." (p. 14); because of this, it was equally important for me to become aware of biases and acknowledge these biases.

Researcher Bias

I was an Oklahoma special education teacher for seven years before entering higher education. My experiences as a special education teacher guided my assumptions of dyslexia; many of my past students had shown dyslexic tendencies, which led me to believe that dyslexia is a disability that should be recognized beyond the current SLD category used in Oklahoma. I earned a master's degree in reading and hold reading specialist certification. The extended coursework in reading I completed as a requirement for my graduate degree, played a role in the biases I held as I conducted this study. I made sure to be aware that the six educators, who agreed to be in my study, may not have had the additional education and may not be as knowledgeable as I am when it comes to reading instruction and practices. In contrast, the six participants in my study may have acquired more knowledge than I.

Another bias I had when entering this study was my husband's negative school experiences. His teachers' assumptions of him being lazy and not smart played a huge role in him not receiving any interventions. His teachers would just pass him from one grade to the next without looking into why he struggled. Because of this, my husband never found school to be important. This led to many conversations between us about our own children's education. He would always question why we needed to go to parent-teacher conferences and he never understood why it was so important to me to be involved in school related activities and that our children made good grades. After all, he never did, nor were his parents involved, but he still graduated high school. For these

reasons, I needed to be cognizant of my biases before I began to gather and analyze data for this study. Creswell and Miller (2000) acknowledge this:

> It is particularly important for researchers to acknowledge and describe their entering beliefs and biases early in the research process to allow readers to understand their positions, and then to bracket or suspend those researcher biases as the study proceeds (p. 127).

Being reflexive in the research processes helped me become more aware of the biases I enter with, understand these biases, and question this understanding (Creswell & Miller, 2000; Hertz, 1997; Patton, 2002). Hertz (1997) goes on to note reflexivity is, "to have an ongoing conversation about experience while simultaneously living in the moment" (p. viii).

Research methods are an integral part of the study and must be conducted accurately and effectively. Subjectivism plays a huge role in qualitative research. Peshkin (1988) indicates, "Subjectivity operates during the entire research process" (p. 17). Subjectivity is not something I denied, as it was a part of me during this research study. Rather, I worked toward being conscientious of how subjectivity shaped my research as it was being conducted (Peshkin, 1988). Merriam and Tisdell (1998) noted, "Rather than trying to eliminate these biases or "subjectivities," it is important to identify them and monitor them…" (p. 16). I became aware of my own subjectivity and this awareness helped me to suppress subjectivity through self-examination and keeping a constant vigil on my research practices and ethical procedures. Peshkin (1988) stated, "By this consciousness I [the researcher] can possibly escape the thwarting biases that subjectivity engenders, while attaining the singular perspective its special persuasions

promise" (p. 21). Subjectivity exists in all humans' thoughts and actions, which is not a characteristic that will ruin a research study. "Subjectivity…is the basis of researchers' making a distinctive contribution, one that results from the unique configuration of their personal qualities joined to the data they have collected" (Peshkin, 1988, p. 18). I identified my subjectivity before I implemented my research study and continued to reflect upon my own interpretations during the study, by doing this I ensured limitations of any influences that may have imprinted upon the outcomes; thus, ensuring an empirically sound research.

Epistemology, Theoretical Perspective, Methodology and Methods

To have a strong foundation for research, identifying the epistemology, theoretical perspective, methodology, and methods used and how these elements justified this study's reasoning is crucial. Crotty (1998) postulates four questions: "What methods do we propose to use? What methodology governs our choice and use of methods? What theoretical perspective lies behind the methodology in question? What epistemology informs this theoretical perspective?" (p. 2). In the next section, I made reasonable accords for these questions. Why follow these four questions? Crotty (1998) indicates that by using the four elements within questions to design a research study the research will "ensure the soundness of our research and make its outcomes convincing" (p. 6).

Epistemology

Epistemology is defined as "the study of knowledge and justified belief" (Stanford Encyclopedia of Philosophy, 2005). Crotty (1998) said epistemology is what we know, how we come to know it, and how we explain and justify this knowledge. Thus, knowledge is gained through our social interactions with everyone

with whom we come into contact; this knowledge is then deep-seated into this study. How we all learn, grow, and interpret the world makes a difference in how we gain knowledge.

The epistemology used for this research study was constructionism. Since the construction of meaning occurs through people through social interactions and experiences, their views on dyslexia are likely socially constructed. That is, elementary educators gain knowledge about different types of disabilities and instructional strategies through their experiences, including higher education opportunities, professional development, and experience with students who have disabilities. These opportunities as mentioned above are usually provided by school systems, through self-selection of professional development events, and day-to-day experience educators gain working within school settings. Through these experiences, educators cultivate knowledge of a phenomenon in order to expand and evolve their own understanding.

This epistemology helped to identify the relationships between the elements of research in order to eliminate confusion and bring forth a better understanding of my approaches to, and position of, the phenomena being studied. In essence, knowing why a researcher strives to learn a phenomenon is what really drives a research study. This research was based on the epistemology of constructionism because I conducted a study that examined what perceptions of selected Oklahoma elementary educators had about dyslexia. I then attempted to gain knowledge about these educators' perceptions and the reasons they held these beliefs.

Theoretical Perspective

Constructionism in this study was expressed through the theoretical perspective of phenomenology. "…social constructionism emphasizes the hold our culture has on us: it shapes the way in which we see things (even in the way we feel things!) and gives us a quite definite view of the world" (Crotty, 1998, p. 58). As humans interact with the world, meanings are constructed. As I conducted interviews and analyzed findings, Theories must be useful to the research being studied; otherwise, the knowledge constructed will not be beneficial. Anfara and Mertz (2015) could not have described it any better; they said, "A useful theory is one that tells an enlightening story about some phenomenon. It is a story that gives you new insights and broadens your understanding of the phenomenon" (p. 5). This is precisely what I hoped to accomplish in this content analysis. Phenomenology is "to understand an experience from the participants' point of view" (Leedy & Ormrod, 2001, p. 157). As I inserted myself into their world it gave me a glimpse of my participants' views, as they saw them, on dyslexia.

Methodology

Crotty (1998) defined methodology as, "the strategy, plan of action, process or design lying behind the choice and use of particular methods and linking the choice and use of methods to the desired outcomes" (p. 3). In this qualitative content analysis, I explored six Oklahoma elementary educators' perceptions of dyslexia. Merriam and Tisdell (2016) noted:

> Having interest in knowing more about one's practice, and *indeed,* improving one's practice leads to asking researchable questions, some of which are best approached through a qualitative research design. In fact…research focused on

> discovery, insight, and understanding from the perspectives of those being studied offers the greatest promise of making a difference in people's lives. (p. 1)

Having a strong foundation for research to build upon is important for any quantitative or qualitative study. In a qualitative content analysis, "the process of analysis reduces the volume of text collected, identifies and groups categories together and seeks some understanding of it" (Bengtsson, 2016, p. 8). The methodology used assisted me in conducting a valid and reliable study, one that helped to answer the posited questions around which this study was designed by allowing me to carefully look over the data collected, think about the data, and form conclusions based on the data.

Research Methods

I chose to conduct a content analysis. According to Weber (1990) and Holsti (1969), content analysis is a research method that analyzes a body of text, such as interviews. This content analysis explored themes and patterns within text derived from the interviews that were conducted. For this study, I took a two-pronged approach to content analysis. First, I did a conventional content analysis, and then I did a directed content analysis; both were qualitative in nature. "Qualitative content analysis involves a process designed to condense raw data into categories or themes based on valid inference and interpretation. (Zhang & Wildermuth, 2005, p. 2). By using a two-pronged approach during this content analysis, I was able to form a clear picture of both the perceptions that my participants held about dyslexia and what strategies were employed during instruction of their students.

Demographics of the Participating Schools.

The first elementary school selected for this study was located in the northern part of the state of Oklahoma and consists of Kindergarten to third grade. During the 2018-19 school year, there were 1,056 students enrolled in this school (OEQA, 2019, p. 2). According to the Office of Educational Quality and Accountability (2019) this student population consisted of, 63.2% Caucasian, 2.6% Black, 1.4% Asian, 8.8% Hispanic, and 5.1% Native American with 23.2% of the student population eligible for free and reduced lunches (p. 2). There are currently 44.3 teachers teaching in this school; 20.3 of these teachers hold master's degrees, and there were 5.7 special education teachers (OEQA, 2017, p. 2). 24.4% of this school's Kindergarten through third graders were receiving reading remediation, and 12% of the student population was receiving special education services (OEQA, 2019, p. 2).

Another elementary school selected for this study was located in the northern part of the state of Oklahoma and consisted of Kindergarten to third grade. During the 2018-19 school year, there were 586 students enrolled in this school (OEQA, 2019, p. 2). According to the Office of Educational Quality and Accountability (2019) this student population consisted of, 33.6% Caucasian, 19.8% Black, 0.3% Asian, 3.1% Hispanic, and 32.8% Native American with 100% of the student population was eligible for free and reduced lunches (p. 2). There were 32.6 teachers teaching in this school; 19.2 of these teachers hold master's degrees, and there were 4.1 special education teachers (OEQA, 2017, p. 2). 41.7% of this school's Kindergarten through third graders received reading remediation, and 20.8% of the student population was receiving special education services (OEQA, 2019, p. 2).

Washington Elementary School

Washington Elementary School (WES) is in a suburban school district in northern Oklahoma that houses PK-3 grade. There are 1,056 students enrolled at WES. The school's report card for academic achievement scored a B. In language arts, the school scored 79.3, the district average 58.9, and the state average was 43.2 (2018-19 School Report Card, oklaschools.com). This data means that 79.3 percent of students at WES met or exceeded proficient scores on their English Language Arts yearly assessment. The students in this school site performed better than other sites within the district and performed better than Oklahoma's average for all schools.

Lincoln Elementary School

Lincoln Elementary School (LES) is a medium-sized school district located in the northern part of Oklahoma that houses PK-3 grade. There are 586 students enrolled at LES. The school's report card reflected an F for academic achievement. In language arts, the school was scored 21.8, the district average was 23.1, and the state average was 43.2 (2018-19 School Report Card, oklaschools.com). Students' performance at this school site is well below average. Only 21.8 percent of students met or exceeded a proficient level on the English Language Arts yearly assessment.

Participants

Participants were chosen because they were teachers of reading who taught at the primary level, grades K-.3rd grades. Their time teaching, grade level taught, and degrees held varied, thus giving me a broad spectrum of perceptions that may or may not differ from one another. There were six participants who agreed to be a part of this study.

Mrs. Johnson

Mrs. Johnson teaches in an early childhood special education resource room at Washington Elementary School (WES). She has been teaching at the early childhood level for a total of 13 years. At the time of the interview, she had just started her third year at WES, located in central Oklahoma. Prior to beginning at WES, she taught for eleven years at a rural school. Mrs. Johnson is an alternatively certified special education teacher, mild/moderate category. Alternative certification is an alternate pathway for those who hold a bachelor's degree in something other than education but who seek to become teachers (OSDE, 2020); Mrs. Johnson's bachelor's degree is in child and family development. She also holds a master's degree in reading and is now a certified reading specialist. One of the things that Mrs. Johnson enjoys about her job is working with students with disabilities and the challenges of figuring out what works best for each of them (Ms. Johnson, interview, November 13, 2019).

Mrs. Brown

Mrs. Brown started her teaching career in 2006 and has been teaching for 13 years. She has taught at three different public-school districts, two schools were urban districts, and one was a rural school district. She has been at WES for the past three years. Mrs. Brown has a bachelor's degree in elementary education and a master's degree in reading and holds reading specialist certification. She currently serves as a third-grade teacher in a general education classroom. She enjoys teaching young students. She states, "Just being able to speak into their lives and let them know they can, no matter how young they are, they can determine what they do in life and that they know how

important education is. Just that they fall in love with learning" (Mrs. Brown, interview, November 25, 2019).

Mrs. Bell

Mrs. Bell is a third-year special education teacher who teaches in a third-grade resource room at Lincoln Elementary. Her entire teaching career has been in the same district. She has a bachelor's degree in special education and is currently working on her master's degree in reading; she is expected to graduate in December 2020. (Mrs. Bell, interview, March 13, 2020). In past years, Mrs. Bell had to share a room with another teacher; she indicated that the room was packed full, and no positive experience was had. However, she now has her own room, and this experience has been "awesome" (Mrs. Bell, interview, March 13, 2020).

Mrs. Putnam

Mrs. Putnam is a veteran teacher who has taught for 25 years. She spent her first five years at a rural school district in northern Oklahoma, teaching numerous grade levels and academic subjects. She recalled, "When I first began, I was teaching second-grade math, second grade reading then sixth-grade literature and math. And then I was over at the high school teaching eighth and ninth grade literature" (Mrs. Putnam, interview, April 3, 2020). Since moving to her current district, 20 years ago, she has taught at the Kindergarten level. During the interview, she expressed a lot of love for this grade level. She notes, "That [kindergarten] is my place!" (Mrs. Putnam, interview, April 3, 2020).

Mrs. Armstrong

Mrs. Armstrong is a general education teacher who teaches kindergarten. She has been teaching for five years, four and one-half of those years at Lincoln Elementary. She

has a bachelor's degree in Early Childhood. Mrs. Armstrong elaborated on the fondness for the grade she teaches, " I just like the age group. We have a lot of fun...I like seeing the big milestones that they hit throughout the year" (Mrs. Armstrong, interview, April 3, 2020).

Mrs. Lakey

Mrs. Lakey is a special education teacher who has been teaching for ten years. She has taught at several schools. First, she taught at a school north of Tulsa, and then she taught at Lincoln Elementary for three years. She then moved to two other schools before returning to the school she initially taught for three years. She has now been at Lincoln Elementary for two years. Altogether she has worked at Lincoln Elementary for five years. Mrs. Lakey expressed her love for her current school district, saying, " I am back home" (Mrs. Lakey, interview, April 3, 2020).

Table 1

Participant Profile Summary

Name	Position	Years of Teaching	Years at current district	Degree
Ms. Johnson	Special Education Teacher K-3rd	13	3 Washington Elementary	B. S. Child and Family Sciences; M. Ed. Reading
Ms. Brown	General Education Teacher K	13	3 Washington Elementary	B.S. Elementary Education; M.Ed. in Reading
Ms. Bell	Special Education Teacher 2nd	3	3 Lincoln Elementary	B.S. Special Education
Ms. Putnam	General Education Teacher K	25	20 Lincoln Elementary	B. S. Elementary Education
Ms. Armstrong	General Education Teacher K	4 ½	4 Lincoln Elementary	B. S. Early Childhood

Ms. Lakey	Special Education Teacher K-1	10	5 Lincoln Elementary	B. S. Elementary Education

Data Collection

This study's original application was approved by Oklahoma State University's Institutional Review Board on November 1, 2017, approval number ED17117. A modified application was been sent to the IRB and approved on June 6, 2019. (See appendix B & C). The protection of the rights of each and every participant, such as confidentiality and ability to withdraw from the study, was non-negotiable. These protections (see Appendix D) were implemented throughout data collection procedures and the process of data analysis (Byrne, 2001). What I said to my respondents to obtain informed consent: Your completion and return of the interview implies your consent to participate in my research. Once you completed the interview, your participation in the research is finished. Your decision to participate in the research is completely voluntary. You may skip any questions you do not wish to answer. You may choose to withdraw from this study at any time without negative consequences. Should you choose to respond to the interview questions, your name will not be associated with your responses, you will be identifiable by code only accessible by me, and your participation will be kept confidential. The risk of harm to you by participating in this research is minimal, not likely to exceed the risk of participating in daily life. There is no cost to you, nor will there be any compensation provided for participating in this study. This study has been approved by the Institutional Review Board (IRB) at Oklahoma State

University. You may contact the IRB at 918-561-1400 or visit their web site at www.osu-tulsa.okstate.edu/research/ if you have questions about your rights as a participant in this study.

Confidentiality

The confidentiality of all participants was of the utmost importance. To ensure that confidentiality is maintained, I conducted my study by following specific guidelines. Interviews were recorded so that they could be transcribed at a later date. Information was stored on a cell phone protected by a password that can only unlock the cell phone. Should the cell phone ~~had~~ been lost or stolen, I would have immediately contacted my cell phone company to lock and disable all phone functions permanently. The recordings were retained for one month; once transcribed the interviews were permanently deleted.

Data Sources

My primary data source was interviews. I conducted semi-structured interviews with the six teachers who teach reading and who agreed to take part in my study. It was my intent to also observe reading instruction and collect artifacts; however, because of school closures due to the coronavirus (COVID 19) pandemic observations were not possible. Therefore, I used the observational checklists I developed to conduct a directed content analysis of the interviews from the lenses of structured literacy (IDA, 2019) and (IDA, 2019) and multisensory instruction. These data collection methods ensured that triangulation could be achieved (Merriam & Tisdell, 1998). This triangulation "is a powerful strategy for increasing the credibility or internal validity of [my] research" (Merriam & Tisdell, 1998, p. 245).

Teacher Interviews

During the course of this study, I collected data by conducting face-to-face interviews. Interviews had been around since researchers began studying human subjects (Merriam & Tisdell, 2016). Merriam (1998) described an interview as a "person-to-person encounter in which one person elicits information from another" (p. 71). Using standardized open-ended questions ensured all my participants were asked the same questions and in turn decreased variances. I also probed my participants in hopes of extracting more information during the interview. Patton (2002) stated, "probes are used to deepen the response to a question, increase the richness and depth of responses, and give cues to the interviewee about the level of response that is desired" (p. 372). Creswell (2009) asserted that an interview protocol should include a heading, instructions, questions, probes, spaces for recording responses, a thank you statement, and a log of all documents collected (pp. 193-194).

The data collected from interviews consisted of 35-50 minutes in person or Zoom sessions. Participants were interviewed once with the opportunity to contribute more after reviewing transcripts for member checking for a data set of six interviews I first started each interview by thanking the interviewees for their time and willingness to be interviewed and going over the participant consent form with them. Then, I spent some time getting to know them a little more and building rapport. I then asked demographic questions to identify the number of years the participants have taught, how many schools they have taught at, and their number and type of degrees they held. I then set about asking my interview questions. I finished the interview by thanking them for their time.

During the interview, I asked the interviewees the following interview questions:

1. How would you define the term dyslexia?
2. What do you think causes dyslexia?
3. How is dyslexia related to intelligence and motivation?
4. How do you distinguish between a student with dyslexia and a student with other learning differences?
5. Think about a student you have or have had in the past, who may have had dyslexia, can you describe this student to me?
6. How did dyslexia influence this student's ability to read?
7. How did you change your reading instruction to help this student learn to read?
8. What dyslexia specific training have you had?

Table 2 shows the alignment between my research questions and the interview questions I asked each participant.

Table 2

Interview Questions Aligned to Research Questions

IQ1: How would you define the term dyslexia?	RQ 1
IQ2: What do you think causes dyslexia?	RQ 1
IQ3: How is dyslexia related to intelligence and motivation?	RQ 1
IQ4: How do you distinguish between a student with dyslexia and a student with other learning differences?	RQ 1, 2
IQ5: Think about a student you have or have had in the past, who may have had dyslexia, can you describe this student to me?	RQ 2
IQ6: How did dyslexia influence this student's ability to read?	RQ 1
IQ7: How did you change your reading instruction to help this student learn to read?	RQ 3
IQ8: What dyslexia specific training have you had?	RQ3
Research Question 3 (RQ3) will also be answered through probing questions.	

I identified the research questions above because they would help lead me into a discussion from which I gathered each participant's breadth of knowledge of, and perceptions of, dyslexia and identified their instructional decisions.

Data Analysis

Data analysis in a qualitative research study must be reflective, intentional, credible, transferable, and dependable and must end with a detailed explanation of a phenomenon. The interview data was analyzed conventionally for themes related to the perceptions of the participants that emerged from the transcribed interviews. Additionally, the interviews were re-analyzed through the lenses of structured literacy and multisensory techniques using checklists I developed from these practices (Tables 3 & 4).

Conventional Content Analysis.

The conventional content analysis was inductive; thus, codes were derived from the data collected (Hsieh & Shannon, 2005). The analysis of data conducted by conventional content analysis aided in "grounding the examination of topics and themes, as well as the inferences drawn from them, in the data" (Zhang & Wildermuth, 2005, p. 2297). Through this analysis, I was able to establish several related connections between participants by taking notes and putting similar information into groups based on specific themes, and then I coded data twice more to ensure consistent themes were found. After I coded the data several times and reached data saturation, I used peer debriefing to identify any themes that were not identified through my analysis. During the peer debriefing, one of my peers also coded the data and comparisons of themes were analyzed to make sure no new themes appeared.

Initial Examination of Data

Coding is an analytical process; Creswell (2015) notes, "Coding is the process of analyzing qualitative text data by taking them apart to see what they yield before putting

the data back together in a meaningful way" (p. 156). I transcribed each interview, read over[VS5] the transcriptions several times, I followed this by creating codes and dividing them into themes (Hsieh & Shannon, 2005). Creswell (2015) describes the steps to coding in a sequential and orderly function. First, generating an abundance of codes; during this step, I initially generated 31 codes from the six interviews. I was then able to reduce the number of codes by eliminating any paralleling codes and combining them (Creswell. 2015). For example, during the coding process I identified the National Reading Panel's (2000) five components of reading, instead of creating five different themes, each of the five components were placed under the same theme. My next step was to repeat this process[VS7] until I reached saturation, "the point in coding when you find that no new codes occur in the data" (Urquhart, 2013, p. 94). This process allowed me to reduce the number of codes to seven major themes (Creswell, 2015).

Second, Third, Fourth Look at the Data

I not only looked over the data multiple times, but I also made sure to reflect upon my analysis of the data between each step of the process. Being reflexive when analyzing data is necessary. I spent a considerable amount of time reflecting on myself, reflecting on my participants, and reflecting on the audience that this research is designed for so that this study's outcome is trustworthy and provided meaningful results (Patton, 2002).

Directed Content Analysis.

During the second approach to analyzing data, I used directed content analysis. I chose to do this based on the literature review conducted for this study, I found two leading practices found to be effective for remediation among students with dyslexia. These two practices were the use of a structured literacy program (Cowen, 2016; IDA,

2019; Shaywitz, 2003) coupled with multisensory techniques (Birsch, 2005; Fletcher, Lyons, Fuchs, & Barnes, 2007; IDA, 2016; Shaywitz, 2003; Schupack & Wilson, 1997). "Sometimes, existing theory or prior research exists about a phenomenon..." (Hsieh & Shannon, 2005, p. 1281). IDA (2019) indicates, "multisensory learning involves the use of visual, auditory, and kinesthetic-tactile pathways simultaneously to enhance memory and learning of written language. Links are consistently made between the visual (language we see), auditory (language we hear), and kinesthetic-tactile (language symbols we feel) pathways in learning to read and spell" (para. 1). The following checklist, table 3, was created based on the VAKT approach to multisensory teaching.

Based on findings uncovered from the literature review indicating that structured literacy and multisensory techniques used during instruction were effective for students with dyslexia (IDA, 2019), I created two checklists to identify if the participants in the study had used any components of structured literacy or multisensory techniques. IDA (2019) indicates, "multisensory learning involves the use of visual, auditory, and kinesthetic-tactile pathways simultaneously to enhance memory and learning of written language. Links are consistently made between the visual (language we see), auditory (language we hear), and kinesthetic-tactile (language symbols we feel) pathways in learning to read and spell" (para. 1). The following checklist, table 3, was created based on VAKT approach to multisensory teaching (see Tables 3 & 4).

Table 3

Structured Literacy Primer Checklist

	Mentioned	Not Mentioned
Systematic & Cumulative		
Explicit		
Diagnostic		

(Adapted from IDA's 2019 Structured Literacy Primers)

Table 4

Evidence of Multisensory Instruction Checklist

	Mentioned	Not Mentioned
1. Visual		
2. Auditory		
3. Kinesthetic-tactile		
Adapted from the International Dyslexia Association's (2019) description of Multisensory techniques		

Tables 3 and 4 provided evidence as to the identification of the use of structured literacy and multisensory techniques used during instruction.

To conduct the directed content analysis, my first approach to this was to look for certain words or descriptions that would describe structured literacy based on the Structured Literacy Primer Checklist I created from IDA's (2019) structured literacy primers; I specifically looked for words such as systematic and cumulative, explicit, and diagnostic or the descriptions that described these three elements (see completed Table

7). I then looked for certain words or descriptions that would indicate multisensory techniques were used by the participants based on the Multisensory Checklist I created from IDA's (2019) description of multisensory techniques; use of visual, auditory, and kinesthetic-tactile techniques during instruction (See completed Table 8). I looked for words or descriptions that would indicate these three techniques were used by the participants.

Trustworthiness: Credibility, Transferability, Dependability, and Confirmability

For this research to be of good quality, trustworthiness was established (Erlandson, Harris, Skipper, & Allen, 1993). I developed trustworthiness by bringing all the data together and analyzing it as a whole, all while providing ongoing checks to ensure trustworthiness was established. In other words, to be credible and to produce high-quality research, I designed this research in a way that provided checks and balances to ensure that authentic procedures were used. According to Zhang and Wildermuth (2005) to build trustworthiness in a content analysis, a researcher needs four things, "credibility, transferability, dependability, and confirmability" (p. 2302).

When analyzing data through my lens, I used triangulation, reflexivity, member checking, collaboration, providing a description, used an audit trail and peer debriefing. I also coded the data by separating the transcribed interviews into themes until I reached saturation. These strategies led me to a content analysis that was trustworthy, credible, valid, and believable. The attributes of the causal model: Framework for Understanding Dyslexia was also carefully compared to my final analysis in order to generate key research outcomes that were derived from this study. Validity procedures were continually reviewed to ensure outcomes were valid.

Table 5

Validity Procedures within Qualitative Lens and Paradigm Assumptions

Paradigm assumptions/Lens	**Postpositivist or Systematic Paradigm**	**Constructivist Paradigm**	**Critical Paradigm**
Lens of the Researcher	Triangulation	Disconfirming evidence	Researcher reflexivity
Lens of Study Participants	Member Checking	Prolonged Engagement in the field	Collaboration
Lens of people external to the study (reviewers/readers)	The audit trail	Thick description	Peer debriefing

(Creswell & Miller, 2000, p. 226)

Credibility

Credibility involves creating a believable study. Lincoln and Guba (1985) indicated that establishing credibility is essential in a qualitative study. One way to do this in my study was through triangulation. Triangulation was described as "an approach to assessing the validity and reliability of data-gathering methods in the social and behavioural sciences" (Pelto, 2017, p. 242). Comparing and analyzing all data collected through interviews between all participants to identify common themes is triangulation (Creswell & Miller, 2000; Patton, 2002; Flick, 2014).

Reflexivity

Patton (2002) posited, "A qualitative analyst owns and is reflective about his or her own voice and perspective; a credible voice conveys authenticity and trustworthiness…the researcher's voice becomes balance" (p. 41). Patton (2002) also suggested the following three stances to ensure a reflexive inquiry is conducted, he notes, "self-reflexivity, reflexivity about those studied, and reflexivity about the audience (p. 495). Reflecting on my own self, on those who participate, and reflecting on the audience that this research was designed for was necessary.

Triangulation

In order for my research study to be trustworthy. I made sure to always ask open-ended questions so that I gained more in-depth responses in order to collect a greater quantity of information. I engaged the participants by asking questions relevant to the study and their professions. I asked follow up questions and probed topics to gain a wider understanding of their feelings and beliefs about dyslexia. Creswell and Miller (2000) explained that validity of research strengthens through triangulation, "…researchers go through this process and rely on multiple forms of evidence rather than a single incident or data point in the study" (p. 127). After the interviews were completed I used the checklists adapted from IDA's (2019) Structured Literacy Primers (Table 3) and Multisensory Techniques (Table 4) to further identify if any components were mentioned during the interviews.

Peer Debriefing

Lincoln and Guba (1985) described peer debriefing, "It is a process of exposing oneself to a disinterested peer…for the purpose of exploring aspects of the inquiry that might otherwise remain only implicit within the inquirer's mind" (p. 308). For this process, I asked a peer to also code the data collected from the interviews. Once done, we compared the themes I generated to the themes my peer generated to make sure that no new themes were discovered or that no themes could be condensed into another theme.

Member Checking

Member checks involved the participants reading the transcripts from interviews and aligning their intent with the researchers (Lincoln & Guba, 1985). Making sure I conducted my study and followed the processes as mentioned above ensured credibility

in my research study. After the interviews were transcribed, I sent an email to each participant with a summary of the interview and asked them to read it and let me know if it portrayed them accurately. I also took this time to ask them if they wanted to add anything to this summary.

Purposive Sampling

This study used purposive sampling to select study participants. "Purposive sampling is based on the assumption that the investigator wants to discover, understand, and gain insight and therefore must select a sample from which the most can be learned" (Merriam & Tisdell, 1998, p. 96). Choosing to be purposive in sampling when conducting a research study helped me to gather a wealth of information that resulted in a more in-depth view of educator perceptions regarding the research study's questions. When considering who will participate in the study, Merriam and Tisdell (1998) suggest that the first essential step is to identify what criteria participants should possess. To conduct a relevant study that explored selected Oklahoma educator perceptions of dyslexia, selecting teachers who were responsible for teaching reading was important. In addition, criterion sampling was also used. I narrowed the grades for which these teachers taught to focus on those who teach K to 3rd grades. Patton (2002) explained, "the point of criterion sampling is to be sure to understand cases that are likely to be information rich because they may reveal major system weaknesses that become targets of opportunity for program or system improvement" (p. 238).

Transferability

IDA (2019) Checklists

The Structured Literacy Primer Checklist (table 3) and the Evidence of Multisensory Instruction checklists (table 4) that I created based on IDA's (2019) outlined components for each were used to ensure transferability in this study. Zhang and Wildemuth (2005) note:

> Transferability refers to the extent to which the researcher's working hypothesis can be applied to another context. It is not the researcher's task to provide an index of transferability; rather, he or she is responsible for providing data sets and descriptions that are rich enough so that other researchers are able to make judgments about the findings' transferability to different settings or contexts" (p. 6).

These checklists were used to identify if the six participants mentioned any of the following components of structured literacy; systematic and cumulative, explicit, and diagnostic, or multisensory instruction; visual, auditory, kinesthetic-tactile.

Dependability/Conformability

Audit Trail

By creating an audit trail, I augmented the trustworthiness of my research study. Carcary (2009) stated:

> It [audit trail] enables a researcher to reflect on how a study unfolded…helps a reader to follow each stage of the process…helps other researchers determine whether a study's findings may be relied upon as a platform for further inquiry and as a basis for decision making (p. 11).

Getting just anyone to audit my research will not provide credibility. Patton (2002) indicates that the auditor must be just the right person; this person should be one who can "apply an appropriately critical eye" and I made sure to be selective in who I chose (p. 562). I had a peer audit the processes of my study. Hsieh and Shannon (2005) noted that use of an audit trail in a content analysis will help to achieve objectivity. My peer examined the sequence of events taken throughout the process of this study; chronological events in creating methodology, collecting data, and analyzing the data collected. By having a peer review and examine this study I was able to better achieve dependability and conformability.

Table 6 is a trustworthy table created for my specific research, by following this table I ensured my study was credible, transferable, and dependable.

Table 6

Trustworthiness Table

Criteria/Technique	*Result*	*Examples*
Credibility		
Reflexibility	ongoing process throughout	Was reflexive on a continued basis throughout the data collection and analysis
Triangulation	Verified data	Six interviews, emails, websites, and checklists.
Peer debriefing	Tested	Discussed and received feedback on coding and generating themes; discussed with other doctoral students in the process of writing the final project
Member checking	Verified documentation and conclusions	Each participant received an emailed summary of their interview to verify accuracy, especially about the conclusions drawn from the study, opportunity to provide any important information that may be missing and to add additional information was given.
Purposive sampling	Generated data for emergent design and emerging hypotheses	Chose Oklahoma educators who teach grades K-3rd grade and who are also teachers of reading.
Transferability		
IDA (2019) Checklist for Structured Literacy Primers	Provided a list of the components of Structured Literacy.	The evidence of structured literacy program and multisensory instruction.
IDA (2019) Checklist for	Provided a list of components of multisensory techniques used during instruction.	The evidence of multisensory instruction.

Multisensory Techniques		
Dependability/Conformability		
Access to an audit trail	Allowed auditor to determine trustworthiness of study	Interview guides, notes, documents, note cards, peer debriefing notes, email exchanges between participants and me are readily available

Limitations of the Study

In any research study, limitations will exist. Participant diversity is one limitation of this study. Because Oklahoma educators are predominantly female and Caucasian, generating a diverse participant group was not possible. Since this study was designed to explore selected Oklahoma educator perceptions, generalizability will not be the basis for this study. In a qualitative content analysis, limitations in this study also included my biases and research as the primary instrument. Another limitation of this study was the inability to observe the participants' reading instruction. Due to COVID 19. This observation was supposed to identify any elements of structured literacy and multisensory instruction that the participants used during their reading instruction. I originally created the structured literacy primer and multisensory instruction tables to use as a checklist after my observations to indicate if I observed these components during my observations. However, since observations were not viable, I was able to adapt by examining the interviews from additional lenses. I did this by creating checklists from IDA's (2019) structured literacy primers and multisensory techniques used during instruction. Therefore, interviews were utilized to identify any structured literacy elements that were mentioned rather than observed. Future studies should include observations of reading instruction. All these limitations may have influenced this study.

Summary

In this chapter, I have identified constructionism as the epistemology. My theoretical perspective was phenomenology. The methodology for this study was content analysis. I took a two pronged approach for the content analysis by using both a conventional content analysis and a directed content analysis. I analyzed transcripts of semi-structured interviews. Semi-structured interviews were used to explore selected Oklahoma public school educators' perceptions of dyslexia and the types of strategies these participants used to adapt instruction for students with extraordinary struggles with reading that could have been dyslexia. I also used checklists designed to identify to see structured literacy components to see if the strategies used by the participants included structured literacy approaches or multisensory techniques. Methods and methodology for this study, all of which were discussed in detail, ensured that trustworthiness was attained. Findings from this content analysis is presented in Chapter IV.

CHAPTER IV

PRESENTATION OF DATA

The purpose of Chapter IV is to present the findings from this study. This qualitative content analysis aimed to explore selected Oklahoma public school educators' perceptions of dyslexia and identify the instructional strategies they used in their classroom to help students who have dyslexia. Both a conventional content analysis (Hsieh & Shannon, 2005) and a directed content analysis (Hsieh & Shannon, 2005) was used to analyze the data collected. Analysis and comparisons were aligned to the theoretical framework outlined in Chapter 1, literature discussed in Chapter II, and checklists created from IDA's principles of structured literacy (IDA, 2019) and multisensory instruction (IDA, 2019). The first step for me was to immerse myself in the data collection process; interviewing my participants.

School Sites

It was my original plan to choose one school site. However, I could not get enough participants for this content analysis by one site alone; therefore, I had to add another location. The two sites I chose were Washington Elementary School (WES) and Lincoln Elementary School (LES). I was able to get two educators from WES and four

educators from LES to participate. Mrs. Johnson was a special education teacher who had taught for thirteen years. Mrs. Brown is a general education teacher who had also taught for thirteen years. Mrs. Putnam was a general education teacher who had taught for twenty-five years. Mrs. Bell is a special education teacher who has taught for three years. Mrs. Armstrong is a general education teacher who has taught for four and one-half years. Mrs. Lakey is a special education teacher who had been teaching for ten years.

Purpose and Research Questions

This qualitative study aimed to explore selected Oklahoma public elementary school educators' perceptions of dyslexia and identified the instructional strategies they have used in the classroom to help their students who have dyslexia. This exploration was governed through the lens of the causal model: Framework for Understanding Dyslexia. Before identifying the design of this research, the following research questions helped to guide and justify the adoption of certain methodology and methods used:

1. How do selected Oklahoma elementary educators perceive dyslexia?
2. What characteristics do Oklahoma elementary educators associate with students who have dyslexia?
3. What instructional strategies do Oklahoma elementary educators use in their classrooms for students with dyslexia?

Initial Examination of Data

For this study, I first completed a conventional content analysis (Hsieh & Shannon, 2005) by generating codes from the transcribed interviews. I did this by typing,

verbatim, the participants' responses to each question I asked. Once interviews were transcribed and cut into strips, I began the process of coding the text to see what themes emerged. During this process, some significant themes and subthemes emerged. The coding process was repeated multiple times until no new themes or subthemes were revealed. There were many themes that emerged from the data. Then, I completed a directed content analysis (Hsieh & Shannon, 2005) by creating a checklist for structured literacy primers (IDA, 2019) and multisensory techniques (IDA, 2019) used during instruction. I did this by analyzing the text to look for specific terms mentioned in the interviews related to each checklist, showing evidence of each of these components.

Coding and Generating Themes

Coding is an analytical process; Creswell (2015) notes, "Coding is the process of analyzing qualitative text data by taking them apart to see what they yield before putting the data back together in a meaningful way" (p. 156). I transcribed each interview, read over the transcriptions several times to identify common phrases and topics. I then created codes to further identify themes. Creswell (2015) describes the steps to coding in a sequential and orderly function. First, generating an abundance of codes; during this step, I initially generated well over 30 codes from the six interviews; such as, teacher perceptions, causes of dyslexia, teacher support, relationship of dyslexia and intelligence and motivation, behaviors exhibited, characteristics. level of training, handwriting, curriculum used, delayed intervention, how instruction changed, students' self-efficacy, systematic instruction, instructional strategies, teacher-parent relationships, fear of failure, vision, aggression, .avoidance, masking, phonics, phonemic awareness, fluency. I was then able to reduce the number of codes by eliminating any paralleling codes and

combining them (Creswell. 2015). My next step was to repeat this process until I reached saturation, “the point in coding when you find that no new codes occur in the data” (Urquhart, 2013, p. 94). This process allowed me to reduce the number of codes to 23 themes (Creswell, 2015).

I not only looked over the data multiple times by rereading and rearranging phrases, but I also made sure to reflect upon my analysis of the data between each step of the process. Being reflexive when analyzing data is necessary. I spent a considerable amount of time reflecting on myself, reflecting on my participants, and reflecting on the audience that this research is designed so that this study’s outcome is trustworthy and provides meaningful results (Patton, 2002).

Findings of the data are reported here by research questions. I ended the coding with 23 themes. Ten themes relating to perceptions of dyslexia were found for research question 1. Seven themes for characteristics of dyslexia were found for research question 2. There were six themes found for instructional strategies used by the participants for research question three.

Research Question 1: How do Selected Oklahoma Elementary Educators Perceive Dyslexia?

Perceptions Varied Greatly Among These Six Teachers

IDA’s (2002) definition of dyslexia is consistently used throughout the world. Dyslexia is widely known among experts as a specific learning disability that is neurobiological in origin; those with dyslexia experience varying levels of difficulty with decoding words, resulting in lowered fluency levels. They also experience deficits in

spelling and writing (IDA, Definitions of Dyslexia, 2002). Mrs. Johnson and Mrs. Putnam were the only two participants who mentioned dyslexia as a neurological disorder (Mrs. Johnson, interview, November 13, 2020; Mrs. Putnam, interview, April 3, 2020). When asked, "what causes dyslexia?" Mrs. Putnam stated, "I think it'll go back to the neurobiological" (Putnam, interview, April 3. 2020). Mrs. Putnam also went on to make connections to research. I could tell that she had refreshed her memory on the topic before our interview because she read the definition verbatim from a paper she had in front of her. Mrs. Bell noted that dyslexia is still a "mystery" to her (interview, March 13, 2020), and Mrs. Lakey admitted that she did not know the definition of dyslexia. Mrs. Brown indicated that even though she had a daughter with dyslexia she is still unsure about what dyslexia is beyond reading backward and mirror writing.

Perception 1: Dyslexia as a Difference in Cognitive Processing

Although only two participants mentioned a neurobiological connection to dyslexia, four participants referenced a cognitive association. Mrs. Johnson said, "it [dyslexia] affects the way a student processes the learning of sounds and reading" (interview, November 13, 2019). Even though she did not have a good grasp of the definition for dyslexia, Mrs. Armstrong noted, "...it's [dyslexia] something with the brain for sure that...produces a deficiency in reading" (interview, April 3, 2020). "Dyslexia actually has to do with the way that you process the parts of your brain," notes Mrs. Bell (interview, March 13, 2020). Mrs. Putnam connected to the differences in the way the brain works for those who have dyslexia (interview, April 3, 2020). Mrs. Lakey suggested that there were different signals in the brain that cause dyslexia.

Perception 2: Dyslexia as a Visual Condition

Four participants mentioned a visual connection between students with dyslexia. Mrs. Brown indicates that students with dyslexia cannot make connections "with the words and with what they're seeing" (interview, November 25, 2019). Mrs. Bell said, "...students look and see letters backward. I have had people describe letters jumping off the page" (interview, March 13, 2020). Mrs. Lakey indicated that dyslexia was, "They [students] see things backwards like mirrored" (interview, April 3, 2020). Mrs. Putnam was the only participant who professed that dyslexia was not a visual problem (interview, April 3, 2020).

Only two of the six participants could produce a definition for dyslexia that was somewhat similar to the IDA definition. One of these participants read the definition of dyslexia from a paper; therefore, it is difficult to identify definitively if she has her own understanding or if her recent research was key to defining this term.

Perception 3: Dyslexia can be Hereditary

Mrs. Johnson and Mrs. Armstrong both indicated a genetic component of dyslexia. Mrs. Johnson said, "What I researched or heard is it can be hereditary" (interview, November 13, 2019). "I have had three parents tell me that they are dyslexic, and they were concerned that their child was going to be dyslexic" (interview, April 3, 2020).

Although Mrs. Armstrong indicated a hereditary component because parents had asked her to keep an eye on their child, she initially said she was unsure but knew it had to do with something in the brain. Both Mrs. Brown and Mrs. Lakey stated that they did

not know the cause. Mrs. Lakey went on to note that “I wasn’t sure if they [researchers] knew the exact cause of it” (interview, April 3, 2020). Five out of the six participants were not really sure about what causes dyslexia but did try to guess its etiology.

Perception 4: Neurological Relation in Dyslexia

One participant described the cause of dyslexia as “overusing one part of their brain...a breakdown in language,” she went on to note that the cause of dyslexia is “not so cut and dry” (Mrs. Bell, interview, March 13, 2020). Mrs. Putnam explained why she was not able to make connections in the brain, but when asked to clarify, she stated that she “honestly doesn’t know” (interview, April 3, 2020). Mrs. Brown indicated that she did not know what caused dyslexia but noted, “I don't know if it's a connection that's not there in the brain. If it's just something that didn't develop if it has to do with the hand, eye, brain coordination, not sure” (Interview, November 25, 2020). Mrs. Armstrong stated, “I'm not sure, actually, I like I said, it is definitely something in the brain that it's not in every child” (interview, April 3. 2020).

Perception 5: Relationship of Dyslexia and Intelligence

All participants reported no relationship between dyslexia and intelligence. Even though five of the participants admitted that dyslexia inhibited their students’ ability to read at the same level as their non-disabled peers, all six of the participants indicated that they were confident there was no correlation between dyslexia and lowered intelligence (Mrs. Johnson, interview, November 13, 2019; Mrs. Brown, interview, November 25, 2019; Mrs. Bell, interview, March 10, 2020; Mrs. Putnam, interview, April 3, 2020; Mrs. Armstrong, interview, April 3, 2020; Mrs. Lakey, interview, April 3, 2020).

Perception 6: Intelligent but Notes a Deficit in Academics, Especially in Reading

Mrs. Putnam was reluctant to indicate that dyslexia inhibited her students' ability to read because she noted that their delays could be developmental (Putnam, interview, April 3, 2020). All participants indicated that their students with dyslexia had average to above-average intelligence. Mrs. Johnson's response to the relation between dyslexia and intelligence was, "Dyslexia doesn't affect intelligence for my understanding…you [students with dyslexia] do have average or higher than average intellectual ability. It's just that academic achievement is missing" (interview, November 13, 2019). "They [students with dyslexia] answer higher-level questions and higher-level thinking. Um, but then you give them the reading, there's a definite gap" (Mrs. Johnson, interview, November 13, 2019).

Perception 7: Relationship of Dyslexia and Motivation

Students who have disabilities and experience failure over and over may also develop lowered motivation (Morgan, Fuchs, Compton, Cordray, & Fuchs, 2008) to compete in the academic setting. The selected educators in this study perceived motivation to be a factor in their students' willingness to learn to read because of difficulties. Mrs. Johnson suggested:

> Once they [students with dyslexia] start feeling like they're failing in the classroom or when they start noticing that they are not learning reading the way it's being taught at the same rate as their peers, then that could affect their motivation...Um, they would maybe give up easier because they don't feel like

> they're going to be successful or they have been unsuccessful (Interview, November 25, 2019).

Mrs. Putnam also indicated that students lose motivation when they are continuously being asked to do what is extremely difficult for them. Mrs. Bell described the loss of motivation by one of her students with dyslexia due to the student's discouragement. She said, "They just want to give up" (interview, March 13, 2020). Mrs. Lakey said, "It [dyslexia] can cause low motivation, but that doesn't mean that they are not intelligent" (interview, April 3, 2020). Mrs. Armstrong hypothesized that when students do not know that they have dyslexia, then they may not be motivated to work, but when they know that they have dyslexia, they know there is a reason why academics is hard, and knowing so decreases loss of motivation. Mrs. Bell indicated that kids lose motivation because they get discouraged when asked to do hard things for them (interview, March 13, 2020). "They [students] are embarrassed," said Mrs. Lakey (interview, April 3, 2020). Mrs. Lakey also noted lowered motivation for students with dyslexia.

Perception 8: Students Experience Fear of Failure

Two participants noted fear of failure as a deterrent in students' willingness to learn to read. Especially when they have to read in front of their peers, this fear of failure has many students giving up. Mrs. Brown noted, "They've experienced failure so much why bother trying cause I [the student] am just going to fail at it anyway" she goes on to call this "learned self-helplessness" (interview, November 13, 2019). Mrs. Johnson also mentioned that students who consistently experienced failure no longer want to try because they may fail again.

Perception 9: Connects School with Negative Experiences

Mrs. Bell noted one student who did not like to come to school. Still, when he was allowed to play with blocks or was at recess, he seemed to have a great time, it was when he was asked to do anything educational "when he had to sit and perform a skill, uh, it was very frustrating to him" (interview, March 13, 2020). "I don't like school, I don't like reading, I like my teachers and friends" was one recollection Mrs. Brown shared (interview, November 25, 2019). Mrs. Lakey, Mrs. Johnson, Mrs. Armstrong, and Mrs. Putnam all mentioned how their students did not like to read because of the difficulty the students faced, but they did like other subjects such as math and physical education.

Perception 10: Students' Low Self-efficacy

"They're down on themselves because they can't do it. No, they think they can't" (Mrs. Lakey, interview, April 3, 2020). Another teacher described a student who said, "something's wrong with me" (Mrs. Armstrong, interview, April 3, 2020). Mrs. Johnson said, "they may have given up because they don't feel like they're going to be successful or they have been unsuccessful" (interview, November 13, 2019). When Mrs. Johnson recalled memories of a particular student, she said, "He understands that he can't read as well as his classmates" (interview, November 13, 2019). "I've had a student come and tell me they are dumb...their teacher thinks they are dumb" (Mrs. Bell, March 13, 2020). Mrs. Putnam exuded sadness when discussing her students' negative view of themselves when they were asked to read.

Research Question 2: What Characteristics do Oklahoma Elementary Educators Associate with Students who Have Dyslexia?

Characteristic 1: Difficulties with Phonics, Phonemic Awareness, and Fluency

Mrs. Johnson identified three of the components of reading as phonemic awareness, phonics, and fluency. None of the other participants explicitly mentioned difficulties with phonemic awareness or vocabulary when discussing behavioral aspects of dyslexia exhibited in their students. All six participants reported students with dyslexia have difficulty with phonics.

Difficulty with phonics seemed to be the primary focus when participants discussed their students' problems with reading. With all six participants teaching in primary grades K-3, it is not a surprise that this was the main focus for them. Difficulties described by the participants included letter naming, putting together sounds in print, confusing b and d sounds when reading, sounding out CVC words, and difficulty with vowel teams and other complex combinations of letters. Mrs. Johnson recalled one of her students, "can't distinguish the phonics and phonemic awareness pieces of reading" (interview, November 13, 2019). She went on to describe her students' difficulties with phonics as "distinguishing specific sounds, uh, differentiating between one sound or another" (interview, November 13, 2019). Mrs. Bell expressed her students' difficulty with sounding out words phonetically. Mrs. Putnam did not mention a specific student who had difficulty with phonics. She did express the importance for students to receive explicit or "therapeutic" phonics instruction (interview, April 3, 2020).

Mrs. Brown mentioned fluency. She noted that one of her students' reading was really “choppy” and struggled with keeping a good pace while reading. Mrs. Bell also remembered one of her students struggled with fluency. She was the only teacher interviewed that mentioned comprehension. She noted that he might have struggled with comprehension. After all, he would transform the story into his own because he had difficulty decoding the story placed in front of him.

Characteristic 2: Difficulties with Handwriting

Student difficulty with the formation of letters was mentioned by three of the participants. Mrs. Johnson, Mrs. Armstrong, and Mrs. Lakey all talked about their students' letter formation. Mrs. Johnson explained that she noticed when many of her students with dyslexia were learning to write letters, they would write in capital letters. Mrs. Putnam also mentioned this. Both Mrs. Johnson and Mrs. Putnam hypothesized that this was due to the inability to reverse capital letters. This is a concept they both expressed learning during training at the Payne Education Center. Although Mrs. Brown talked exclusively about visual issues, she also mentioned her daughter, who had a dyslexia diagnosis, would write using a mixture of uppercase and lowercase letters.

Mrs. Johnson indicated that her students had the most difficulty with b, d, p, and q. When reflecting on one of the training sessions that she went to, she explained this phenomenon “In one of the trainings that I had, she [the presenter] talked a lot about how a chair is a chair no matter which way we put it in space. So if I put the chair upside down, it is still called a chair. But if I put the letter b upside down, we now call it a p” (interview, November 13, 2019).

Mrs. Lakey revealed that she had previously been to LETRS training. Mrs. Johnson and Mrs. Putnam also mentioned this training. LETRS is described as an essential literacy professional development (Voyager Sopris Learning, 2020). However, this type of language is commonly used when marketing a program. Voyager Sopris Learning (2020) describes LETRS:

> *LETRS®* (*Language Essentials for Teachers of Reading and Spelling*) is professional development that provides teachers with the skills they need to master the fundamentals of reading instruction—phonological awareness, phonics, fluency, vocabulary, comprehension, writing, and language. Authored by literacy experts Dr. Louisa Moats and Dr. Carol Tolman (para. 1).

When Mrs. Lakey was asked, "What do you think might cause a student to reverse?" she said that "signals in the brain are not going from there to the letters to the words" (interview, April 3, 2020). It is important to note that neither participant attributed difficulty with letter formation to visual issues.

Characteristic 3: Difficulty with Reading Because of Vision Deficits

Mrs. Brown, Mrs. Bell, and Mrs. Putnam all mentioned vision issues. Mrs. Bell said that she used to think that reversals were a vision issue but now knows that is "pretty normal" for students to reverse letters and numbers (interview, March 13, 2020). She also pointed out that her school district sent her to a dyslexia seminar the day before the interview, and this is where she learned that it was normal for students to reverse letters. Mrs. Brown discussed students who "...letters jumping off the page, saw letters backward...reverse letters and words" and jumbled words in a sentence (interview,

November 25, 2019). She went on to say that students have difficulty with this because of the way they see the print confuses them. All participants in this study attributed visual issues to these difficulties. Mrs. Bell and Mrs. Putnam both mentioned issues with tracking from left to right when reading.

Characteristic 4: Coping Mechanisms Exhibited Because of Difficulties with Reading

Some teachers perceive coping mechanisms expressed by students with dyslexia as atypical behaviors. Common atypical behaviors exhibited when students experience failure or fear of failure can include anger, avoidance, frustration, violence, and withdrawal (Mrs. Johnson, interview, November 13, 2019; Mrs. Brown, interview, November 13, 2019; Mrs. Bell, interview, March 10, 2020; Mrs. Putnam, interview, April 3, 2020; Mrs. Armstrong, interview, April 3, 2020; Mrs. Lakey, interview, April 3, 2020). Mrs. Johnson noted, "I think he struggled and then just kind of ran away from reading. Like in his own mind this avoided it [reading]" (interview, November 13, 2020).

Characteristic 5: Avoidance Behaviors Exhibited When Asked to Complete a Reading Task

Mrs. Armstrong described one of her kindergarteners, "he would just have a total meltdown...he threw his chair down on the ground…he broke his pencil in half, and he'd tell me he couldn't do his work because his pencil was broken (interview, April 3, 2020). The student avoided doing work at all costs because of his frustration with reading, "He was definitely a frustrated child" (Mrs. Armstrong, interview, April 3, 2020). She goes on to note, "Just a lot of avoidance of getting to the table because he kind of figured oh if I if I'm naughty, I get in trouble, and then I don't have to do my paper. Very avoiding the

situation entirely" (Interview, April 3, 2020). Mrs. Johnson also described avoidance behaviors from some of her students; she said, "avoidance can come out in many kinds of behaviors...refusing to work, going under tables, to hitting and throwing things" (interview, November 13, 2020). When asked "why did your student avoid reading?" she noted, "So I think he just he felt like the other kids were doing better than him. So I think he just kind of avoided even at that age, you know, they realize, you know, there's something different with how I'm learning than everybody else" (interview, April 3, 2020).

Characteristic 6: Masking to Hide Dyslexia

A common perception among the six participants is that dyslexia does not affect intelligence. All the participants felt that students with dyslexia have above average intelligence (Mrs. Johnson, interview, November 13, 2019; Mrs. Brown, interview, November 25, 2019; Mrs. Bell, interview, March 13, 2020). The details of how students mask their disability was revealed during the interview. Mrs. Johnson described one of her students with dyslexia because he was so intelligent he would "hide" his disability "very well" (interview, November 13, 2019). Mrs. Armstrong mentioned that one of her students could "fake things because he was so smart" (interview, April 3, 2020). Mrs. Bell described a time when one of her students, who had extreme difficulty with reading, would start reading a passage and then "eliminate the sentence and create his own" she believed he did this to hide the fact that he was not able to read the excerpt (interview, March 13, 2020).

Characteristic 7: Students with Dyslexia Exhibit Strengths in Other Areas

All participants identified students with dyslexia with having strengths, such as being creative, artistic, great memorization, great with listening comprehension, and having great imaginations (Mrs. Johnson, interview, November 13, 2019; Mrs. Brown, interview, November 25, 2019; Mrs. Bell, interview, March 13, 2020; Mrs. Putnam, interview, April 3, 2020). Mrs. Johnson, when describing one of her students with dyslexia, said, "I am thinking, in particular, about a boy who was very bright. Verbally you would never know, socially you would never know, that he struggles with reading or with anything academically and hides his disability very well" (interview, November 13, 2019). Mrs. Brown perceived that students with dyslexia "have to be more intelligent because they had to overcome obstacles to get to where they are" (interview, November 25, 2019). Mrs. Bell suggested, "intelligence is not an indicator of whether they can be successful or not and that is proven in research" (Interview, March 13, 2020). Mrs. Putnam recalled one student who had really good listening skills. She said, "It {assessment results] went from a kindergarten level to a second-grade level, but it was all listening. All he had to do was listen and pick the correct answer" (interview, April 3, 2020).

Research Question 3: What Instructional Strategies do Oklahoma Elementary Educators use in Their Classrooms for Students with Dyslexia?

The checklists Structured Literacy Primer and Evidence of Multisensory Instruction (tables 2 & 3) I created based off IDA's (2019) Structured Literacy Primer and components of Multisensory Instruction was used as a checklist to indicated whether

the components of each were mentioned by the participants. The checklists were completed once the interviews were transcribed and read multiple times, the use of these checklists for this directed content analysis helped to triangulate the data collected (Pelto, 2017).

Instructional Changes Made in Response to Students with Dyslexia

When asked, "how did you change your reading instruction," all teacher participants discussed some ways they each changed their instruction to meet their students' needs. Mrs. Johnson and Mrs. Putnam went into detail about their attempts to help the students in their classroom that struggled with reading. Mrs. Johnson noted pulling her students for one-on-one instruction, using multi-sensory techniques, such as "moving blocks for sounds," giving short quick lessons so that the student would know that "he's not going to be in this hard situation forever" (interview, November 13, 2020). Mrs. Bell mentioned, "I had to come at a different approach, and then I could tailor it specifically to him. If one approach didn't; work, I would find something else" (interview, March 13, 2020). She also noted that she would back up to meet his specific needs, gave lessons on digraphs and fluency drills.

Mrs. Armstrong responded to "how did you change your reading instruction" by stating she used small reading groups to address specific needs. She also added that she would have students write on colored blocks, chunking instruction, let students work at their pace, and allowed for frequent breaks when students got frustrated.

Mrs. Lakey and Mrs. Brown initially discussed doing something different. Mrs. Lakey hesitated to answer. I then asked her, "What are some things that you did

differently for your students that you maybe did not do in the beginning" she responded by stating, "We worked just mostly on comprehension...because nobody [teachers, administration] seemed to be that worried about the dyslexia part of it" (interview, April 3, 2020). She also mentioned the repetition of work.

Mrs. Putnam pointed out that "some people think that because kids are struggling, you shouldn't work so hard with them, you have to work harder" (interview, April 3, 2020). In regards to teaching students with dyslexia, veteran teacher Mrs. Putman said, "You have to have a system, you have to have an approach. You can't just let them do what they want to do" (interview April 3, 2020), She also mentioned continued practice.

Instructional Strategy 1: Grouping Used as an Instructional Strategy

Instructional grouping in the classroom was a strategy that was mentioned several times. Mrs. Brown, a general education teacher, discussed ways she created small instructional groups. At the same ability level based on their Lexile levels, these small homogeneous groups consisted of three to four students. Mrs. Johnson and Mrs. Bell discussed one on one instruction. Mrs. Bell reflected on her son's difficulty learning to read and revealed that his success was due to her being able to work with him individually. She went on to indicate that she was not able to do this in the public school setting.

Instructional Strategy 2: Colored Overlays, Folded Papers Used as an Instructional Strategy

Both Mrs. Brown and Mrs. Lakey mentioned that they use colored overlays. Mrs. Brown stated, "I will try some different overlays and I will cover half the paper up. I took

a folder and cut it in half so we just read, try to just read a few of the sentences or try to isolate a sentence" (interview, November 25, 2020). Brown noted using folders or papers folded in half to "isolate a sentence or word" (interview November 25, 2019); Mrs. Lakey also mentioned having her students try one sentence at a time. There is not empirical evidence that colored overlays are effective in remediating dyslexia (Stuart, McIntosh, & Salla, 2011).

Instructional Strategy 3: Changes in Curriculum to Assist Students With Dyslexia

There was some mention of the type of curriculum used at these two school sites. At Washington Elementary School, teachers have "autonomy" and can choose what curriculum they want to use, they can use the Basal readers alone, they can use the Basal and supplement, or they can use something completely different (Mrs. Brown, interview, November 25, 2019). Mrs. Brown acknowledged that she uses a mixture of curriculum materials along with computer-assisted instruction, "So I do a lot of Rooted in Reading, I will use a lot of leveled readers from the unit of the chapter, but they also have a book, um, A to Z books, guided reading, and we have RAZ Kids, which is A to Z. So, but mainly I have been using Rooted in Reading" (interview, November 25, 2019). Mrs. Johnson also works at Washington Elementary, and she also reported using a variety of curriculum materials such as leveled readers and materials from Teacher-Pay-Teacher.

At Lincoln Elementary School, all teachers must use the assigned curriculum that the school has purchased. This school currently uses the Journeys reading program. Houghton Mifflin Harcourt develops this program Houghton Mifflin Harcourt, 2017). Jago et al. (2017) claimed that Houghton Mifflin Harcourt's *Journeys* meets the needs of

struggling readers by providing effective instruction, vocabulary instruction, intensive skills instruction, graphic organizers, and interaction opportunities, and engagement and motivation. They stated:

> Not all struggling readers struggle for the same reasons. They differ in their needs for instruction (Valencia, 2010). Some need additional instruction in phonics, decoding, and word recognition. Others need instruction focused more closely on comprehension strategies (Pressley, Gaskins, & Fingeret, 2006). What these students do not need is slowed-down instruction, which will ensure that they remain behind their peers (Allington & Walmsley, 1995) (as cited in Jago et al., 2017, p. 34)

Also, Houghton Mifflin Harcourt (2017) indicates that instruction *can* be slowed down for struggling readers.

Although Mrs. Bell works at Lincoln Elementary and is required to use the Houghton Mifflin Harcourt reading materials, she said that the curriculum she had for her son, when she homeschooled him, was a "very structured phonics program...moves at a very slow pace...takes them all the way from the beginning to the end...it never got hard for him" (interview, March 13, 2020). She is not allowed to provide instruction at the students' pace because she must stay at the same pace as the general education teachers since all students take the same tests.

Instructional Strategy 4: Evidence of the Use of Structured Literacy

Colorado Department of Education (CDE) (2017) describes systematic instruction as the "blueprint for a house," In other words, systematic instruction starts by building a

strong foundation for reading so that skills learned can be used to gain new knowledge and master concepts (CDE, 2017). Mrs. Putnam stated, “Other teachers don't see eye to eye with me on that. But that's okay if you will teach them a logical sequence. It's going to be very helpful to them. If you don't teach them any sequence at all that to me those pathways are not going to connect in the brain” (interview, April 3. 2020). Mrs. Putnam also expressed the need to teach students in a “logical sequence” (interview, April 3, 2020).

Table 7

Completed Structured Literacy Primer Checklist.

Mrs. Johnson	Mentioned	Not Mentioned
Systematic & Cumulative		X
Explicit	X	
Diagnostic		X
Mrs. Brown	Mentioned	Not Mentioned
Systematic & Cumulative		X
Explicit		X
Diagnostic		X
Mrs. Bell	Mentioned	Not Mentioned

Systematic & Cumulative	X	
Explicit	X	
Diagnostic	X	
Mrs. Putnam	Mentioned	Not Mentioned
Systematic & Cumulative	X	
Explicit	X	
Diagnostic		X
Mrs. Armstrong	Mentioned	Not Mentioned
Systematic & Cumulative		X
Explicit		X

Diagnostic		X
Mrs. Lakey	Mentioned	Not Mentioned
Systematic & Cumulative		X
Explicit		X
Diagnostic		X
Adapted from IDA's Structured Literacy Primers (2019)		

Mrs. Bell was the only teacher who discussed all three teaching principles of structured literacy (interview, March 13, 2020). However, she only mentioned the three teaching principles of structured literacy when she talked about when she homeschooled her son. She did say that she could not use this type of instruction for her students because the district she works at was adamant that she nor veer off the assigned curriculum.

Both Mrs. Johnson and Mrs. Putnam mentioned some of the principles of structured literacy but did not address all three. Mrs. Armstrong, Mrs. Bell, and Mrs.

Lakey did not mention any of the three principles of structured literacy; this does not mean that they do not implement any principle, this just means that they did not discuss any when interviewed.

Instructional Strategy 5: Evidence of the Use of Multisensory Techniques During Instruction

Components of multisensory instruction were revealed during my interviews. As indicated in Chapter II, students with dyslexia can become proficient readers when given systematic and explicit instruction and when this instruction is coupled with multisensory techniques (Shaywitz 2003). IDA (2019) indicates, "multisensory learning involves the use of visual, auditory, and kinesthetic-tactile pathways simultaneously to enhance memory and learning of written language. Links are consistently made between the visual (language we see), auditory (language we hear), and kinesthetic-tactile (language symbols we feel) pathways in learning to read and spell" (para. 1). Mrs. Johnson, Mrs. Bell, and Mrs. Armstrong all mentioned multisensory techniques. Mrs. Johnson noted, "I did hands-on multisensory, mostly with blocks, moving blocks with sounds...writing in motion, salts, flour, writing on the table" (interview, November 13, 2019). Mrs. Johnson has also used the Barton Reading Program at her previous school because it was purchased by one of her students' parents. This program claims to provide a "tutoring system for children, teenagers, or adults who struggle with spelling, reading, and writing due to dyslexia or a learning disability" (Barton, 2020, para. 1). This program has ten levels, starts with phonemic awareness, and ends with Greek words and Latin roots. This program includes videos, scripted lessons, and manipulatives such as blocks (Barton, 2020). "Hands-on activities using manipulatives, scrabble game" describes Mrs. Bell

(interview, March 13, 2020). Mrs. Armstrong mentioned giving students more tactile, hands-on activities. Mrs. Brown does say multisensory, but she explained it as cutting and pasting and working on a computer program. Mrs. Johnson was the only participant who explicitly noted using multisensory techniques simultaneously with direct instruction.

Table 8

Completed Evidence of Multisensory Techniques.

Mrs. Johnson (interview, November 13, 2019)	Mentioned	Not Mentioned
1. Visual	X	
2. Auditory	X	
3. Kinesthetic-tactile	X	
Mrs. Brown (interview, November 25, 2019)	Mentioned	Not Mentioned
1. Visual	X	
2. Auditory		X
3. Kinesthetic-tactile	X	
Mrs. Bell (interview, March 13, 2020)	Mentioned	Not Mentioned
1. Visual		X
2. Auditory		X

3. Kinesthetic-tactile	X	
Mrs. Putnam (interview, April 3, 2020)	Mentioned	Not Mentioned
1. Visual	X	
2. Auditory	X	
3. Kinesthetic-tactile		X
Mrs. Armstrong (interview, April 3, 2020)	Mentioned	Not Mentioned
1. Visual		X
2. Auditory		X
3. Kinesthetic-tactile	X	
Mrs. Lakey (interview, April 3, 2020)	Mentioned	Not Mentioned
1. Visual		X
2. Auditory		X
3. Kinesthetic-tactile		X

Adapted from the International Dyslexia Association (IDA, 2019)

Instructional Strategy 6: Delayed Intervention for Students Who Experience Difficulties in Early Grades

Since dyslexia is one of the hidden disabilities (Shaywitz, 2003), it is more difficult for teachers to pinpoint reading issues just by talking to the student. Delayed interventions can result from teachers being reluctant to refer because they may think it could be developmental. Mrs. Armstrong and Mrs. Putnam, both kindergarten teachers, mentioned they are hesitant to do anything for students who fall behind because they do not want the student to be labeled with a disability if it is just a lag in their development. Mrs. Armstrong said that she would notify the student's next year's teacher and have this teacher lookout for any issues. Mrs. Bell, who teaches third grade, discussed students with large reading deficits who do not get tested until third grade. She added that last year one-second grade class had three different teachers. She was not surprised that the students in the class who struggled to read were not referred.

Mrs. Putnam suggested that when intervention is ineffective referrals made to special education may indicate a student has a disability when they do not. She indicated, "too many kids are also getting put on IEPs [individualized education programs] and transferred as dyslexic when maybe they're not dyslexic" (interview, April 3, 2020).

Summary

Chapter IV presented a brief description of each school site, how coding the interview data was completed, and what themes emerged from this data. I provided each research question and the themes relating to each question was presented. The presentation of data gathered from the interviews included how teacher perceptions varied greatly, students' characteristics of dyslexia described by the teachers were presented, and how the teachers' instruction changed in response to their students' diverse needs was described in this chapter. Evidence of the use of structured literacy and multisensory techniques during instruction was also included in Chapter IV. Chapter V consists of the analysis to all three research questions and how these six teachers' perceptions and causal theory aligned. The implication to practice, theory, and research were revealed, as well as, recommendations for practice and future research, a conclusion for this research study is also provided.

CHAPTER V

FINDINGS, CONCLUSIONS, & RECOMMENDATIONS

This qualitative research study aimed to explore the perceptions of selected Oklahoma public school educators about dyslexia, their knowledge of effective reading interventions, and use of instructional strategies to help students with dyslexia. This qualitative content analysis was conducted through the lens of the causal model (Morton & Frith, 1995) and the Framework for Understanding Dyslexia (DES, 2004). I employed the use of semi-structured interviews and completed both a conventional content analysis and a directed content analysis based on the data collected from the interviews and the checklists adapted from the IDA (2019). The study consisted of six participants from two school districts in Oklahoma. The participants were selected for this study because they were all kindergarten through third grade elementary school teachers who provided reading instruction. Each participant volunteered to discuss their perceptions of dyslexia with the researcher.

Causal Model and Framework for Understanding Dyslexia

Once all data was collected and analyzed, it was used to explore relationships through the lens of the causal model (Morton & Frith, 1995) and the Framework for Understanding Dyslexia (DES, 2004). The causal model developed by Morton and Frith (1995) explained the relationships between the biological, behavioral, and cognitive facets of dyslexia. Biological refers to the elevated connection between students with dyslexia and their family members who also have this disorder and the student's neurobiological makeup. Students can inherit the disability from their parents and the disability impacts the parts of the brain that are used when reading (Carrion-Castillo, Franke, and Fisherman, 2013; Galaburda et al., 2006; Morton & Frith; 1995; Shaywitz, 2003: Schultz, 2008; Schumacher et al., 2007; DES, 2004). The cognitive lens focuses on how students with dyslexia process information differently. And the behavioral lens is primarily concerned with the effects of dyslexia on the students' reading behaviors; the presence of dyslexia is often identified due to the display of common characteristics. Awareness of the causal model can help teachers better understand the complexities of dyslexia. However, awareness is not enough. "There is growing agreement that awareness of what and how to teach is only part of the solution. Awareness alone does not solve the overarching issue" (Odegard & Farris, 2020, p. 15). Along with awareness, gaining a deep understanding of how dyslexia impacts a student, and responding to students in a meaningful way through effective instructional strategies and techniques is paramount to students developing important reading skills.

Findings

This qualitative content analysis aimed to explore selected Oklahoma public elementary school educators' perceptions of dyslexia and identified the instructional strategies they have used in the classroom to help their students who have dyslexia. This exploration was governed through the lens of the causal model: Framework for Understanding Dyslexia. Before identifying the design of this research, the following research questions helped to guide and justify the adoption of certain methodology and methods used. The following research questions guided this study:

1. How do selected Oklahoma elementary educators perceive dyslexia?
2. What characteristics do selected Oklahoma elementary educators associate with students who have dyslexia?
3. What instructional strategies do selected Oklahoma elementary educators use in their classrooms for students with dyslexia?

The content from the interviews presented in Chapter IV helped to answer these research questions. All research participants indicated that they wanted to know more about dyslexia, which showed that they all had a high level of self-awareness about the need to know more. Despite this, the study's findings showed that the participants either had limited knowledge or gaps in their knowledge and understanding of dyslexia and how to help students with dyslexia.

Research Question 1: How do selected Oklahoma elementary educators perceive dyslexia?

Students who have dyslexia are typically identified as having a specific learning disability (SLD) in reading. Dyslexia, the most prevalent and recognized subtypes of SLD (Cortiella & Horowitz, 2014), makes this disorder one of the most important for teachers to understand thoroughly. Yet, it is one of the most misunderstood in relation to the behavioral, biological, and cognitive facets (Furham, 2013).

Perceptions Varied Greatly Among These Six Teachers

Although there was some mention of how the brain works for students with dyslexia, neither Mrs. Armstrong, Mrs. Brown nor Mrs. Lakey knew what dyslexia was, other than they knew it negatively impacted a student's ability to read. Although five of the interviewees had some knowledge of dyslexia, Mrs. Lakey noted that she just did not know what it was or what caused the disorder (interview, April 3, 2020). She stated, "The only thing I really know about dyslexia, is that they see things backwards like mirrored. I have not actually researched a lot on it" (interview, April 3, 2020). The lack of understanding among the participants suggested that they did not understand the depth of dyslexia.

Dyslexia as a Difference in Cognitive Processing

The causal model highlights three facets of dyslexia, one of which is the cognitive connection. All participants were aware that dyslexia involved differences in cognitive processing and that these differences negatively effect a student's ability to learn to read.

Mrs. Johnson and Mrs. Armstrong mentioned that dyslexia is a different in cognitive processing. Mrs. Bell attended dyslexia professional development the day before our interview, so it was not evident if she had this knowledge before this time or if her knowledge was newly acquired. During our interview, Mrs. Putnam read the definition from one she had with her during the interview, therefore it was unclear if this was her own level of understanding or merely a recitation of printed information. Each participant did describe varying abilities and inabilities for their students with dyslexia. Shaywitz et al. (1992) noted that dyslexia is on a spectrum from mild to severe; therefore, each student's cognitive processing is different.

Dyslexia as a Visual Condition

Misconceptions that surround this disability were described by the participants, such as, dyslexia being caused by a visual condition. These misconceptions can lead to improper pedagogical choices (Washburn, Joshi, & Binks-Cantrell, 2011). In the future, teachers who use all three of the components of the causal model as a guide are more likely to develop a more accurate understanding of dyslexia (Furnam, 2013; Morton & Frith, 1995; DES, 2004). Mrs. Johnson was one participant who understood dyslexia on a deeper level. She richly described the biological, cognitive, and behavioral components during her interview. She said:

> Dyslexia is a learning disability…that affects the way a student processes, the learning of sounds and reading… dyslexia doesn't affect intelligence…and it typically is displayed with a gap between their intellectual ability, which is usually average or above average… it can be hereditary… he [her student] can't

> distinguish the phonics and phonemic awareness pieces of reading. (interview, November 13, 2019)

Distinguishing between a student with dyslexia was less clear than determining a student who continually struggled to learn to read for the interviewees in this study for a couple of reasons. First, Oklahoma does not explicitly require the identification of dyslexia. Those students with dyslexia, even if often undiagnosed are typically identified under the umbrella term of specific learning disabilities in reading within the Individuals with Disabilities Education Improvement Act. Not mentioned by the interviewees was that during the special education identification process when dyslexia is suspected, the Individualized Education Program (IEP) team can decide if dyslexia should be included in the IEP. Second, three participants indicated that they were reluctant to refer students for an academic evaluation. Mrs. Armstrong and Mrs. Putnam, both kindergarten teachers, expressed reservations for referring their students for special education evaluations and possible services because they thought that the delays they were seeing in these students could be developmental. They suggested that the students just needed more time to catch up with their peers (interview, April 3, 2020).

Dyslexia can be hereditary

Mrs. Johnson, Mrs. Bell, and Mrs. Putnam were the most knowledgeable participants interviewed regarding dyslexia. They knew that dyslexia was neurological in origin and that the disability may also be hereditary. The participants' level of understanding about the biological origins of dyslexia ran the gamut from very little understanding to a higher level of knowledge. The most knowledgeable participants, Mrs.

Johnson and Mrs. Putnam, had specific and intensive professional development on dyslexia. Mrs. Bell had dyslexia specific professional development the day before our interview and neither Mrs. Brown, Mrs. Armstrong nor Mrs. Lakey had any professional development covering dyslexia. With regard to the biological facet of dyslexia, participants had a variety of explanations for this from dyslexia being neurobiological (Mrs. Johnson, interview, November 13, 2020; Mrs. Putnam, interview, April 3, 2020) to dyslexia being hereditary (Mrs. Johnson, interview, November 13, 2020; Mrs. Armstrong, interview, April 3, 2020) to not knowing any biological connections to dyslexia (Mrs. Lakey, interview, April 3, 2020).

Neurological Relation in Dyslexia

The participants showed a lack of understanding about the neurological causes of dyslexia. Mrs. Bell noted that a student is likely only using one part of their brain. Mrs. Putnam suggested that dyslexia is due to a disconnect in some parts of the brain. Neither Mrs. Brown or Mrs. Armstrong knew what caused dyslexia. Not having a deep understanding about what causes dyslexia and how a student's brain works, especially when it comes to reading, can be detrimental. IDA (2019) suggested, "In public school settings where many teachers are not knowledgeable about this condition, students with dyslexia may be considered stupid or lazy" (para. 3). Because of these misconceptions, the appropriate strategies are not being implemented, what teachers implement in their classroom is directly linked to what they know about dyslexia and reading instruction (Joshi et al., 2009; Moats, 2009; Lopes et al., 2014; Moats & Foorman, 2003; Spear-Swerling, 2007; Spear-Swerling et al., 2005; Washburn, Joshi, & Binks-Cantrell, 2011). When teachers know the causes of dyslexia and how it effects the way students with

dyslexia learn to read best, they will then be better prepared to help the students in their classrooms who struggle.

Relationship of Dyslexia and Intelligence

Looking at dyslexia through the cognitive lens can also be very helpful. Historically, the academic deficits displayed by students with dyslexia were viewed as a biproduct of low intelligence, but IQ tests have proven this untrue (Shaywitz, 2003). All participants agreed that dyslexia and intelligence are not related. Two participants in this study mentioned that they thought students with dyslexia had to have above average intelligence to be able to overcome their reading challenges. LDAA (2016) reported that dyslexia could not be identified in a student based on intelligence; as far as intelligence goes, students with dyslexia are a heterogeneous group with respect to intellectual ability.

Intelligent but Notes a Deficit in Academics, Especially in Reading

The participants in this study all made comments about students' deficits in reading. Mrs. Johnson (interview, November 13, 2019) stated, "They [students with dyslexia] answer higher-level questions and higher-level thinking. Um, but then you give them the reading, there's a definite gap." Shaywitz (2003) mentions many areas of reading where students struggle the most, phonemic awareness, phonics, and fluency. One additional are the participants described was difficulty in math.

Relationship of Dyslexia and Motivation

Other behaviors associated with dyslexia that was identified by the participants was students' lack of interest and motivation to read. All participants in this study

described students who did not like to read because reading was hard for them. Mrs. Johnson noted, ‘they [students] would maybe give up easier because they don't feel like they're going to be successful” (interview, November 13, 2019). However, when teachers know what to do when students experience lack of interest and lowered motivation, they can help to create a more positive outlook for their students. Using evidenced-based practices to increase students’ proficiency in reading, motivation and self-esteem is recommended (Roskos & Newman, 2014; Shaywitz, 2003).

Students Experience Fear of Failure

Even though only two participants specifically mentioned fear of failure, all the other participants described how students were reluctant to try a new task, especially in the are of reading. The fear of reading is real for students with dyslexia (Understood, 2020). These participants are very aware of their students’ feelings toward reading. Teachers who know these signs can help their students feel more successful. Mrs. Bell described the importance of allowing her students successes. She said, “I don’t want them to be discourages all the time, they got to have those successes” (Interview, March 13, 2020). Mrs. Johnson also noted that students experiencing success is important. The other four participants did not mention success. Allowing a student to feel successful will help them experience less fear of failure (Understood, 2020).

Connects School with Negative Experiences

Both Mrs. Bell and Mrs. Brown mentioned negative school experiences felt by their students who have dyslexia. They both claimed that their students would say that they did not like school, especially when they were frustrated about a reading task they

were asked to do (Mrs. Bell, interview, March 13, 2020; Mrs. Brown, interview, November 25, 2019). When students with dyslexia face difficulty in academics, they are more likely to grow negative feelings for school (Mweli & Kalenga, 2009).

Students' Low Self-efficacy

All participants mentioned how their students with dyslexia felt discouraged, gave up, and saw themselves as less than (Mrs. Johnson, interview, November 13, 2019; Mrs. Brown, interview, November 25, 2019; Mrs. Bell, interview, March 13, 2020; Mrs. Putnam, interview, April 3, 2020; Mrs. Armstrong, interview, April 3, 2020; & Mrs. Lakey, interview, April 3, 2020). These participants know the negative, and long lasting, effects that having dyslexia has on a student in the academic setting.

Research Question 2: What characteristics do selected Oklahoma elementary educators associate with students who have dyslexia?

The behavioral lens seemed to be more comfortable for the interviewees. All of them quickly identified a number of behavioral signs, which bodes well for students with dyslexia. After looking at the data from teacher interviews, it is evident that all the teachers associate some reading behaviors with dyslexia. Those dyslexia-associated behaviors described by the teachers consisted of vision issues, phonemic awareness difficulties, spelling problems, and phonics deficits. They also noted that their students, when faced with these challenges, displayed atypical behavioral responses and a lack of interest and motivation for reading.

A common thread among participants was their ability to identify the behaviors of struggling readers. Those included vision issues, letter reversals while reading and writing, difficulty with sounding out words, and differentiating between b, d, p, q. Atypical behaviors were also identified. Those included avoidance, frustration, and violence. Nevertheless, there were major gaps in the participants' understanding of dyslexia and how it is presented in students on a behavioral level.

There are many different behaviors that students with dyslexia display inside the classroom, and it is clear that the teachers were in tune with those. All of the participants had some common descriptions of behaviors that are displayed by students with dyslexia. There was no surprise to find that the causal model's behavior facet was a significant focus of the interviewees. After all, these teachers work closely with their students in their classrooms, which allowed for them to make close observations of their students engaged in the learning process. In addition, these observable behaviors can be easily seen and measured when a student is asked to perform a difficult literacy skill. Students who have dyslexia have difficulties with all aspects of reading. The five essential components that must be mastered for students to succeed in reading are phonemic awareness, the alphabetic principle and phonics, vocabulary, fluency, and comprehension (NICHHD, 2020). A few of these components are discussed below.

Difficulties with Phonemic Awareness, Phonics, and Fluency

Phonemic awareness is an area of reading where students with dyslexia typically experience difficulties. Yet, this study found that only one participant, Mrs. Johnson,

specifically mentioned phonemic awareness as a concern. When she described phonemic awareness, she mentioned activities that she usually did with students. She stated:

> We're doing some sorting with words to distinguish the vowel sounds. So just by vowels laying out all five vowels and then having card pictures and sorting them by medial sounds and then we also have three, um, can be anything really blocks or something that are different colors and saying, What three sounds and then asking him what [sound] was that green block. (interview, November 13, 2019)

Mrs. Putnam, Mrs. Armstrong, and Mrs. Lakey all taught kindergarten; none of them identified issues with phonemic awareness as an indicator of dyslexia. According to Yopp and Yopp (2000), phonemic awareness should be explicitly taught and assessed in Pre-Kindergarten, Kindergarten, and first grade. According to the University of Oregon Center on Teaching and Learning (n.d.), phonemic awareness is important because it "primes readers for print" (para. 3). When readers lack phonemic awareness this negatively affects a student's ability to learn the phonetic components of reading, phonics. The lack of mention for phonemic awareness is a cause for concern for these six participants, especially for those who teach at the kindergarten and first grade levels because these are the primary grades for when phonemic awareness is introduced and reinforced.

There was an underwhelming response from all participants in relation to students with dyslexia and difficulty with phonics. Phonics was specifically mentioned by Mrs. Johnson and Mrs. Bell, the term was not mentioned but described by Mrs. Putnam and Mrs. Armstrong and was not mentioned or described by Mrs. Brown or Mrs. Lakey. Even

though all participants mentioned their students had difficulty with sounding out words or figuring out words (phonics) their descriptions varied greatly from vague to providing a more in-depth discussion of phonics. Inevitably, difficulties that arise in the area of phonics with a student with dyslexia will hinder the students' ability to read fluently and comprehend text, which is the goal for all students. If these teachers don't know common phonics challenges that students with dyslexia face, then identification and early intervention will not be possible.

Difficulties with handwriting

Students with dyslexia frequently experience deficits in the area of orthography (APA, 2016; Department of Education and Skills, 2004; IDA, 2017; Wegner, Poon, & Macias, 2012). All six participants noticed and mentioned orthographic deficits when they described their students' with identified or suspected dyslexia. All participants described observing their students committing frequent letter reversals. Students with dyslexia commonly reverse letters, especially for the letters b, d, p, and q. Confusing these letters when reading and writing occurs often among students who are in the beginning stage of spelling, typically those students below third grade, not just those who have dyslexia (Moats, 1983). Mrs. Johnson provided an analogy for why students have such difficulties, especially with b, d, p, q. She stated:

> A chair is a chair no matter which way we put it in space. So if I put the chair upside down it's still called a chair. But if I put the letter b upside down, we now call it a p (interview, November 13, 2019).

This analogy indicated that Mrs. Johnson was aware of the difficulty's students face with letter recognition and with writing those letters. Mrs. Putnam also indicated difficulties her students with dyslexia had when it came to writing, she noted that her students would only write using uppercase letters (interview, April 3, 2020).

Writing cannot happen without spelling, yet, only one of the participants specifically mentioned that their students struggled with spelling. This is important to note because difficulty with spelling is one of the "core characteristics" for dyslexia (Galuschka et al., 2020, p. 1; IDA, 2012; Shaywitz, 2003). Shaywitz (2003) noted that students with dyslexia use "invent spelling" rather than conventional spelling, for example spelling car using "krr" instead of "car" (loc. 1763). These teachers must be cognizant of the deficits in writing and spelling conventions if they are to assist in identifying risk factors for dyslexia.

Difficulty with Reading Because of Vision Deficits

All the participants described students committing letter reversals when the students pronounce letters or words incorrectly or writing them backwards, such as b as d or saw as was. as common characteristics of dyslexia. However, this is a misconception made by many teachers (Castello & Gilgor, 2018; Washburn, Joshi, & Binks-Cantrell, 2011). That is, these teachers believe that students with dyslexia see letters and numbers differently than the typical student despite evidence to the contrary. The notion of a visual causation to dyslexia is a misconception. Handler and Fierson (2011), in their study, found no relationships to students' vision clarity and the presence of dyslexia; they note:

> Vision problems can interfere with the process of reading, but children with dyslexia or related learning disabilities have the same visual function and ocular health as children without such conditions. Currently, there is inadequate scientific evidence to support the view that subtle eye or visual problems cause or increase the severity of learning disabilities. (p. 818)

Misconception that a vision deficiency is present is often associated with dyslexia (Shaywitz, 2003; Washburn, Joshi, & Binks-Cantrell, 2011). The American Academy of Pediatrics (2009) noted that students with dyslexia and students without dyslexia have similar vision and overall eye health. Wadlington and Wadlington (2005) also indicated that a student's poor vision is not due to the student having dyslexia. While Shaywitz (2003) strongly recommends that parents have their child evaluated for vision issues she is adamant that vision issues are not what causes dyslexia. As part of the special education evaluation process, a student's vision health information is considered. These sources all recognize that vision deficits are not a cause of dyslexia or other reading deficiencies (AAP, 2009; Shaywitz, 2003; Wadlington & Wadlington, 2005). And yet this misconception continues to thrive in the education setting creating more obstacles for students with dyslexia. Misconceptions can impact teachers' perceptions of dyslexia, thus negatively impacting students' academic performance in the classroom (Castello & Gilgor, 2018; Washburn, Joshi, & Banks-Cantrell, 2011); these students could receive a delay in being referred for evaluation and could also receive ineffective instruction and interventions (Washburn, Joshi, & Binks-Cantrell, 2011). Two of the participants indicated the use of colored overlays and folded papers to alleviate a visual impairment;

this misconception has impacted their ability to make appropriate pedagogical decisions in their classrooms that are effective (Stuart, McIntosh, & Salla, 2011).

Coping Mechanisms Exhibited Because of Difficulties with Reading

The coping mechanisms described by some of the participants ranged from anger to withdrawal. Avoidance was mentioned by all six of the participants (Mrs. Johnson, interview, November 13, 2019; Mrs. Brown, interview, November 13, 2019; Mrs. Bell, interview, March 10, 2020; Mrs. Putnam, interview, April 3, 2020; Mrs. Armstrong, interview, April 3, 2020; Mrs. Lakey, interview, April 3, 2020). When a task get too hard for a student, avoidance seems to be the way some students with dyslexia choose to handle it.

Avoidance Behaviors Exhibited When Asked to Complete a Reading Task

Students' atypical social/emotional behaviors were richly described by all participants. The negative social and emotional impact their students with dyslexia faced was overwhelming. The atypical social/emotional behaviors described by the participants included a lack of willingness to read, little interest in reading, frustration when reading, anger towards reading, and avoidance towards reading tasks. Research in the field also note these same atypical behaviors (IDA, 2019; Orton & Gillingham, 2018; Shaywitz, 2003). When describing a kindergartener with suspected dyslexia, Mrs. Armstrong stated, "he would just have a total meltdown...he threw his chair down on the ground…he broke his pencil in half, and he'd tell me he couldn't do his work because his pencil was broken...He was definitely a frustrated child" (interview, April 3, 2020). Mrs. Johnson described one of her student's avoidance behaviors when facing reading tasks as hiding

under tables, hitting, and kicking. Mrs. Brown and Mrs. Johnson mentioned fear of failure as the direct cause for these atypical behaviors and students' low motivation to read. The participants also mentioned the need to provide emotional support to their students who were struggling with reading. However, the connection to the need to support their students by means of an academic intervention to address students' difficulty to read was absent.

Masking to Hide Dyslexia

Students with dyslexia can get really good at masking or hiding their disability. Masking can be detrimental to a student because it can lead to delayed interventions, supports, and placement into special education. Early intervention is necessary for all students with dyslexia (Shaywitz, 2003). When teachers are in tune with their students they will be able to identify if a student is really struggling.

Students with Dyslexia Exhibit Strengths in Other Areas

All the participants could describe strengths that their students with dyslexia possess. The strengths the students had were described as them being critical thinkers, being creative, and having great imaginations. These teachers knew that even though their students struggled in the are of reading, they do have an abundance of strengths when compared to their deficits (Shaywitz. 2003). Supporting students reading acquisition by using their strengths will help them to be more successful (Shaywitz, 2003).

Teachers who are knowledgeable of and recognize the common characteristics of dyslexia will be able to identify students' needs earlier, initiate the appropriate

interventions quicker, and engage any support service processes sooner. Recognition is only the first step, action must come next, but action without the knowledge of how to provide effective interventions for students with dyslexia will not address the complex problems with reading that these students face every day.

Research Question 3: What instructional strategies do selected Oklahoma elementary educators use in their classrooms for students with dyslexia?

The participants described many ways that they changed their reading instruction to help their students with dyslexia. They mentioned using small groups, individual instruction, colored overlays, folded papers. Structured literacy, and multisensory techniques during instruction.

Instructional Changes Made in Response to Students with Dyslexia

Making changes for students with dyslexia came easy for these participants. However, only one teacher, Mrs. Bell (interview, March 13, 2020) mentioned using a structured literacy program and multisensory techniques during instruction. Unfortunately, when she described these changes it was in response to homeschooling her son. All other participants made some changes. None of the additional changes mentioned by the participants were changes that were proved effective for students with disability; structured literacy coupled with multisensory techniques (IDA, 2019; Shaywitz, 2003). It is essential that these teachers know more.

Grouping used as an Instructional Strategy

Mrs. Johnson mentioned small groups and individualized instruction, hands-on materials, practice drills on sounds of words in print, and repetition of reading skills (interview, November 13, 2019). Mrs. Brown responded by saying she would assist students in looking at patterns and fluency practice (interview, November 25. 2019). Mrs. Lakey mentioned changing their instruction but lacked the identification of any specific strategies other than colored overlays (interview, April 3. 2020). Mrs. Lakey also mentioned that she assisted her students with comprehension. Mrs. Putnam exclaimed that she had to have some sort of system or steps in addressing their needs but never identified specifically what this system was other than keeping her lessons highly active (interview, April 3, 2020). Mrs. Bell changed her approach altogether, if that did not work she stated that she would try a different approach with her students but her curriculum had to stay the same (interview, March 13, 2020).

Colored Overlays, Folded Papers used as an Instructional Strategy

Use of colored overlays and folded papers were mentioned by Mrs. Brown. The use of colored overlays or folded paper is frequently used as an accommodation for students on an IEP in Oklahoma during standardized testing (OSDE, 2020). But there is no proof that using colored overlays or folded paper assists in increasing the reading abilities for students with dyslexia (Denton & Meindi, 2015).

Changes in Curriculum to Assist Students with Dyslexia

There was mention by the two of the participants about changes in curriculum in response to students with dyslexia. Mrs. Johnson (interview, November 3, 2019)

mentioned using leveled readers and Mrs. Brown (interview, November 25, 2019) mentioned using a couple of online forums to gain curriculum. These two teachers were from the first school site, Washington Elementary School, and they had autonomy when making curricular choices. However, four of the participants, at Lincoln Elementary School, are not allowed to make curricular changes, the school decides what curriculum to use and these teachers are not allowed to veer off the curriculum. Mrs. Brown, a special education teacher, also mentioned that she has to keep up with the same pace at the other 3rd grade teachers. Washington Elementary School has a B in English Language Arts and Lincoln Elementary School had an F (2018-19 School Report Card, oklaschools.com). These scores could be a representation of the type of curriculum used, lack of flexibility in curriculum choice, and inability to pace curriculum based on students' needs.

Evidence of the Use of Structured Literacy

Analysis of table 7 in Chapter IV of the Structured Literacy Primer Checklist showed that Mrs. Bell was the only participant to include all three Teaching Structured Literacy Primers (Systematic & Cumulative, Explicit, and Diagnostic); no other participant discussed all three. Not being able to identify all three Structured Literacy Primers will adversely impact their pedagogical choices in the types of and implementation of curriculum. The instructional materials used at Washington Elementary were selected by each teacher, and both Mrs. Johnson and Mrs. Brown indicated that they used a variety of materials. However, Mrs. Bell, Mrs. Putnam, Mrs. Armstrong, and Mrs. Lakey, at Lincoln Elementary, used a set curriculum, ***Journey***, adopted by the school district. Washington Elementary had the best report card score in

English Language Arts; this was surprising given the fact that Lincoln Elementary School purchased a set of curriculum that was listed by Houghton Mifflin Harcourt (2017) who state that their curriculum "was designed to be a system that reliably turns students into confident readers and writers" (para. 1) and that Washington Elementary School teachers self-select materials that are not proven as valid, reliable, or effective. This study's findings highlighted that some form of instructional changes needed to be done, but the participants did not identify what with regards to curriculum used or materials selected. Mrs. Bell went on to note that when she was homeschooling her son she used scripted lessons that were, "very structured phonics program...moves at a very slow pace...takes them all the way from the beginning to the end" (Bell, interview, March 10, 2020).

Evidence of the Use of Multisensory Techniques During Instruction

When analyzing table 8, evidence of multisensory techniques in Chapter IV, Mrs. Johnson was the only participant who spoke about all three multisensory techniques; visual, auditory, and kinesthetic-tactile. Mrs. Brown and Mrs. Putnam mentioned two of the three techniques. Mrs. Armstrong mentioned one multisensory component. Mrs. Lakey did not discuss any form of multisensory techniques. Research conveyed that intensive instruction that is also systematic and explicit must be used for students with dyslexia (Birsh, 2011; Moats, 1999; Shaywitz, 2003; Uhry & Clark, 2004). Orton and Gillingham (2018), Shaywitz (2003), and many other researchers in the field stressed the need for both systematic and explicit teaching coupled with multisensory techniques both taught simultaneously to students who have dyslexia.

Delayed Intervention for Students Who Experience Difficulties in Early Grades

Early identification is vital to providing a student with the appropriate academic interventions. It has been noted by many researchers that students who struggled at the primary level continue to struggle in subsequent grades (Hall & Moats, 1999; Shaywitz, 2003), therefore, early identification is key. Mrs. Bell suggested that some teachers are reluctant to refer students because of the amount of paperwork that is involved, such as collection of student work samples, assessment results, questionnaires anecdotal records, and other additional papers that need to be filled out that indicated the need for an academic evaluation. Because of teachers leaving the school district was another reason identified by Mrs. Bell (March 13, 2020). She said, "they [administrators] replaced her [first teacher of the school year] with somebody else and then he had some heart trouble, so he got a medical leave… he didn't get replaced. So they [administrators] divided the kids up into the other classes. It's [student's struggling] just overlooked" (interview, March 13, 2020). Mrs. Putnam and Mrs. Armstrong made comments on delaying referral until the students are in first grade (interview, April 3, 2020). However, focused reading instruction cannot be provided if a child is not identified. Shaywitz (2003) advocates for early assessment. She expounds that evaluations can be given and should be given to students as young as kindergarteners (Shaywitz, 2003). Delayed intervention can be detrimental to a student; early intervention is critical. It takes four times as long to breach literacy gaps for students in fourth grade than it does for students in kindergarten (Lyon & Fletcher, 2001). Students who have dyslexia have many strengths and have average to above-average intelligence; these students get good at masking their disability. When early interventions that are proven to be effective are provided to students, placement in

special education under Specific Learning Disability can be reduced (Lyon & Fletcher, 2001).

How does the causal theory inform the pedagogical choices made by selected Oklahoma elementary educators for students with dyslexia?

Understanding the complexity of dyslexia is essential to the instructional choices that Oklahoma educators make. The degree to which educators understand the cognitive level of the causal model will impact the pedagogical choices that teachers make in their classrooms. Knowing how the brain processes literacy-related information for a student with dyslexia can help a teacher identify and implement effective and proven instructional practices and strategies (Shaywitz, 2003). This "best practice" approach may ensure a positive outcome for their students who research has shown require highly prescriptive instruction to benefit. Odegard and Farris (2020) emphasized, "Schools need educators with deep knowledge of what to teach and how to teach it" (p. 15). In other words, teachers must have robust knowledge in the science of reading and effective techniques to be effective when teaching students with dyslexia to read (Odegard & Farris, 2020).

Making uninformed pedagogical decisions in curriculum, instructional materials, and multisensory techniques are ineffective in helping students make critical developmental literacy gains. Five of the six teachers provided evidence that they used some multisensory components, but it was implemented ineffectively, either without a structured literacy program or in isolation. These poor instructional choices were made due to a lack of understanding of dyslexia and the most effective interventions.

Additional Findings

Many of the teachers in this study described the need to positively support their students who struggled with reading. Mrs. Brown gets to know her students by playing games with them. When they find a task difficult, she goes out of her way to make it fun. Mrs. Bell added that she provides her students with positive affirmations by telling them how great they are and by providing opportunities for them to have academic success. She noted, “I don’t want them to be discouraged all the time. They have got to have those successes...that made them more successful” (interview, March 13, 2020). Mrs. Putnam pointed out that students' success was determined by the teacher. She said, “that [student success] depends on how the teacher handles it. Some teachers think I can’t teach this kid, they don’t know anything” she went on to indicate that it is the attitude of the teacher than can make a difference “You know if you are there to teach, it’s your heart to teach, you will find out how to work with them” (interview, April 3, 2020). No matter what kinds of support these teachers already provide, having a deep understanding of dyslexia is key to giving their students what is needed so that they all increase their reading abilities.

It was also revealed by Mrs. Bell, who teaches third grade, that she is limited in the type of accommodations that she is allowed to use during the Oklahoma State Testing Program, even though she is a special education teacher and all her students have a disability she can only use small groups and testing in a separate location as accommodations. This could also account for lowered test scores since accommodations are used to level the playing field between students with disabilities and students without disabilities (IDA, 2020).

All participants reported a desire to know more about dyslexia. Mrs. Johnson and Mrs. Putnam, the participants who received the most dyslexia professional development, indicated that they were eager to continue to expand their knowledge about dyslexia. Mrs. Putnam wanted to know more about "materials that they [teachers] use. What procedures they use, what they ask to know whether this child has dyslexia or not, dyslexic or not, or is it developmental" (interview, April 3, 2020). Mrs. Bell, Mrs. Armstrong, Mrs. Brown, and Mrs. Lakey also indicated that they would benefit from learning more about dyslexia. Mrs. Lakey stated that she wanted to learn more because "it is all new" to her (interview, April 3, 2020); she has taught for ten years. When teachers do not have an in-depth understanding of dyslexia their students with dyslexia do not get what they need to experience success with reading.

Implications

While this study, due to the small sample size, cannot be generalized, there are implications from this research that impact practice, research, and theory. Those implications will be discussed in this section.

Implications for Practice

There are many implications for practice for these six selected Oklahoma elementary teachers who teach students who struggle to read. These teachers demonstrated a clear need for additional targeted professional development. The school districts for which these six teachers teach at are responsible for provide professional development. Professional development for all six teachers needs to occur to ensure a common level of knowledge and consistent implementation of targeted teaching areas.

Professional development that provides deep knowledge of dyslexia should be the first step. Instead of a one-time workshop or conference, ongoing professional development that will deepen the participants' understanding of dyslexia and effective interventions should be provided. Two participants, Mrs. Johnson and Mrs. Putnam recalled completing extensive professional development from the PAYNE Education Center. The Payne Education Center (2020) provides professional development for classroom teachers, therapists, practitioners, and parents in reading instruction and dyslexia. It claims to do the following:

> Staffs highly skilled Qualified Instructors (QIs), who teach all Payne trainings, provides quality researched-based curricula using Structured Multisensory Language techniques, which incorporate the rules of the English language with a 3-dimensional experience using speech, hearing, touch, and movement, updates its curricula to ensure teachers in the classroom are meeting best practice standards for teaching reading, writing, and spelling, all while maintaining compliance with necessary state and federal standards, is the teacher training expert when it comes to reading, as it has trained over 18,000 teachers in Oklahoma and surrounding states, and serves as the go-to community resource in Oklahoma for information on dyslexia and the best practices for teaching children to read (para. 1).

Providing professional development for the four teacher who did not get any, like what the Payne Center offers, will ensure common misconceptions are addressed so that barriers to understanding can be broken, a deeper understand of dyslexia can occur, and effective interventions for students with dyslexia can be learned. The results of this study

showed that misconceptions are evident. Castello & Gilgor (2018) reported that teacher misconceptions can negatively impact students' overall academic success. This study can provide justification to other education professionals in that school of the need for their elementary educators to receive targeted professional development in the area of dyslexia.

Implications for Research

Chapter II provides a model for understanding dyslexia; the causal model by Morton and Frith (1995) and the Framework for Understanding Dyslexia (DES, 2004) which is based on Morton and Frith (1995). The causal model posited that there are multiple facets to developing a deep understanding of dyslexia; biological, cognitive, and behavioral. Findings from this research study helped to support this model and the Framework for Understanding Dyslexia as a theoretical framework. When comparing the data collected to this framework gaps in participant knowledge of dyslexia came to light. All participants agreed that dyslexia existed but had difficulty defining dyslexia, identifying the causes, and delineating the characteristics and behaviors observed in students with dyslexia.

I experienced difficulty recruiting participants willing to share what they know about dyslexia. For instance, at the first school site I had one potential participant who agreed to participate in the study until she heard that the topic was dyslexia. At Washington Elementary, a site with 42 teachers, only two teachers would agree to participate in the study. Potential participants seemed to be intimidated by the topic, no one wants to be interviewed about a topic for which they are unfamiliar or know little

about. Because of the very small sample size of six teachers, generalization of the study results beyond the study participants and their school peers is inappropriate.

Implications for Theory

Findings from this study focused on the Framework for Understanding Dyslexia (2017), which is based on Morton and Frith's (1995) causal model. This model or framework takes into consideration the biological, cognitive, and behavioral factors for all students who have dyslexia. There are many implications for the participants of this study who did not demonstrate a clear understanding of dyslexia, their lack of knowledge about dyslexia made them less-effective teachers for students who needed someone with expertise. Only when taking into consideration all factors associated with dyslexia can these six participants truly understand the disorder. Frith (1999) stressed that by using the causal model to understand, individuals will have a deeper and more effective understanding of dyslexia, its causes, and effective interventions, ultimately helping more students. In this study I found that all six participants needed to know more about what dyslexia is and what interventions are effective for students with dyslexia. Their lack of knowledge and understanding is evident even between the two participants who were able to articulate more about dyslexia. Despite their additional knowledge, there was limited association with their knowledge and the instructional interventions they used with their students. A deepened understanding can only be achieved through a deeper knowledge of how dyslexia presents itself in students, the causal model (Morton & Frith, 1995) outlines the need to know the biological, behavioral, and cognitive facets of dyslexia.

Recommendations for Future Research

Repeating this study with a larger number of elementary teachers would be beneficial in identifying how Oklahoma elementary educators' understanding of dyslexia and the interventions most effective for these students. Expanding the sample size will allow for the results from such a study to be transferable to larger populations of Oklahoma educators. A quantitative study using a questionnaire would allow for easier data collection and analysis as well as the potential for significantly expanding the sample to more schools and districts. It would be beneficial to implement a comprehensive PD program with a select group of teachers and observe their growth from the beginning and at predetermined points during the process.

A subsequent study should also be conducted to examine Oklahoma educators' perceptions of dyslexia after one or two years of receiving more professional development in dyslexia. Teachers do not know what they do not know; this is why bringing awareness and providing professional development to Oklahoma educators of the utmost importance. The participants' knowledge of dyslexia, effective intervention and multisensory techniques are limited. There are still many misconceptions about dyslexia that the participants are not fully aware of as being a misconception and this can lead to confusion. Additional recommendations include future research on the effectiveness of instructional materials and curriculum used at these two particular schools. If the curriculum is designed with students with dyslexia in mind should be considered as well as how the materials and curriculum are being implemented and with what fidelity should also be examined.

Conclusion

Both a conventional content analysis, inductive in nature (Patton, 2002) and a directed content analysis was used to analyze data in this study. Without a doubt, each of the participants expressed a desire and potential to make a difference in the life of their students who have dyslexia. I am confident they already make a difference. However, imagine the level of impact they could make if they had the knowledge base to meet their students' literacy needs. Wolter (2015) said it best:

> Teachers must know what proficient and fluent readers look like and make every assurance that struggling readers become good readers in a timely manner. They must begin with a good set of diagnostic tools and assessments…Using diagnostic information, they must develop intervention programs that meets the individual needs of each student. Making appropriate choices from a wide range of techniques. Furthermore, they must ascertain that their intervention is indeed purposeful and effective for their students. (p. 108)

There is too much at stake for Oklahoma students who struggle to read. When teachers understand the complexities of dyslexia and they better understand dyslexia associated behaviors they will better respond to their students.

After analyzing the data collected for this study, I determined that the participants' perceptions of dyslexia varied greatly. None of the participants' professional development on dyslexia was consistent; half of the participants had some professional development, the other half had none. However, the professional development that the three participants had taken varied greatly in quantity and quality. Mrs. Johnson and Mrs.

Putnam both attended several professional development pieces on dyslexia, one of which was a week-long intensive professional development. Mrs. Bell had only been to one seminar. Neither Mrs. Brown, Mrs. Armstrong, nor Mrs. Lakey had been to any specific professional development on dyslexia, this seems to be the major contributor in the differences of their perceptions of dyslexia.

Patricia Polacco was one of the lucky individuals who ran across a teacher who had deep knowledge in dyslexia and what interventions to provide. Nelson Lauver, who had gone through 13 years of school not ever learning how to read ran into someone who helped him. This proves that it is never too late to learn to read. At 30 years old Lauver learned to read all because he ran into a guy at a car wash who provided him with someone who is knowledgeable of dyslexia and knowledgeable of what interventions to implement. From a personal experience, I share this story: my husband was told his whole life that he was just lazy, that he did not try hard enough, he should work harder. He now believes these phrases, he says all the time if he could just work harder, and if he would have done better in school, he would be better off now. For people with dyslexia, their difficulties do not arise from working less, it is not that they are not motivated, it is not that they are unintelligent, nor is it because they do not try hard enough.

Shaywitz (2003) states, “A child with Dyslexia is in need of a champion, someone who will be his support...his cheerleader...his advocate...his friend” (loc. 2875-2883). Students with dyslexia do need a hero, they need someone who will take the time to learn what students with dyslexia need so that they ensure that their students are not lost in the curriculum and passed on without improving their reading abilities. Each one of these participants is working as hard as they can. Still, they can do more. They can contact their

local universities, reading specialists, and administrators and ask them to help find professional development on dyslexia. Once misconceptions are understood and once knowledge about dyslexia is gained, they will be better equipped to know how to help their students who have dyslexia.

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APPENDICES

APPENDIX A

Trustworthiness Table

Criteria/Technique	*Result*	*Examples*
Credibility		
Reflexibility	ongoing process throughout	Was reflexive on a continued basis throughout the data collection and analysis
Triangulation	Verified data	Six interviews, emails, websites, and checklists.
Peer debriefing	Tested	Discussed and received feedback on coding and generating themes; discussed with other doctoral students in the process of writing the final project
Member checking	Verified documentation and conclusions	Each participant received an emailed summary of their interview to verify accuracy, especially about the conclusions drawn from the study, opportunity to provide any important information that may be missing and to add additional information was given.
Purposive sampling	Generated data for emergent design and emerging hypotheses	Chose Oklahoma educators who teach grades K-3rd grade and who are also teachers of reading.

Transferability		
IDA (2019) Checklist for Structured Literacy Primers	Provided a list of the components of Structured Literacy.	The evidence of structured literacy program and multisensory instruction.
IDA (2019) Checklist for Multisensory Techniques	Provided a list of components of multisensory techniques used during instruction.	The evidence of multisensory instruction.
Dependability/Conformability		
Access to an audit trail	Allowed auditor to determine trustworthiness of study	Interview guides, notes, documents, note cards, peer debriefing notes, email exchanges between participants and me are readily available

APPENDIX B

IRB Approval Letter

Oklahoma State University Institutional Review Board

Date: Wednesday, November 1, 2017

IRB Application No ED17117

Proposal Title: Perceptions of Dyslexia

Reviewed and Exempt Processed as:

Status Recommended by Reviewer(s): Approved Protocol Expires: 10/31/2020

Principal Investigator(s):

Jarilyn Haney
Stillwater, OK 74078

Edward Harris
308 Willard
Stillwater, OK 74078

The IRB application referenced above has been approved. It is the judgment of the reviewers that the rights and welfare of individuals who may be asked to participate in this study will be respected, and that the research will be conducted in a manner consistent with the IRB requirements as outlined in section 45 CFR 46.

☐ The final versions of any printed recruitment, consent and assent documents bearing the IRB approval stamp are attached to this letter. These are the versions that must be used during the study.

As Principal Investigator, it is your responsibility to do the following:

1.Conduct this study exactly as it has been approved. Any modifications to the research protocol must be submitted with the appropriate signatures for IRB approval. Protocol modifications requiring approval may include changes to the title, PI advisor, funding status or sponsor, subject population composition or size, recruitment, inclusion/exclusion criteria, research site, research procedures and consent/assent process or forms.

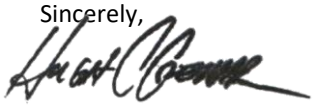
2.Submit a request for continuation if the study extends beyond the approval period. This continuation must receive IRB review and approval before the research can continue.

3.Report any adverse events to the IRB Chair promptly. Adverse events are those which are unanticipated and impact the subjects during the course of the research; and

4.Notify the IRB office in writing when your research project is complete.

Please note that approved protocols are subject to monitoring by the IRB and that the IRB office has the authority to inspect research records associated with this protocol at any time. If you have questions about the IRB procedures or need any assistance from the Board, please contact Dawnett Watkins 219 Scott Hall (phone: 405-744-5700, dawnett.watkins@okstate.edu).

Sincerely,



Hugh Crethar, Chair
Institutional Review Board

APPENDIX C

Modified IRB Approval Form

Oklahoma State University Institutional Review Board

Date:	Thursday, June 6, 2019	**Protocol Expires: 10/31/2020**
IRB Application No:	ED17117	
Proposal Title:	Perceptions of Dyslexia	
Reviewed and Processed as:	Exempt **Modification**	
Status Recommended by Reviewer(s)	**Approved**	

Principal Investigator(s):

Jarilyn Haney
Stillwater, OK 74078

Edward Harris
308 Willard
Stillwater, OK 74078

The requested modification to this IRB protocol has been approved. Please note that the original expiration date of the protocol has not changed. The IRB office MUST be notified in writing when a project is complete. All approved projects are subject to monitoring by the IRB.

☐ The final versions of any printed recruitment, consent and assent documents bearing the IRB approval stamp are attached to this letter. These are the versions that must be used during the study.

The reviewer(s) had these comments:

Modification to change research questions and add two checklists to fill out after observations are conducted

Thursday, June 6, 2019

Oklahoma State University Institutional Review Board Date

APPENDIX D

Adult Consent Form

OKLAHOMA STATE UNIVERSITY

PROJECT TITLE: IT ONLY TAKES ONE TEACHER TO MAKE A DIFFERENCE IN THE LIFE OF A STUDENT WITH DYSLEXIA: A CONTENT ANALYSIS

INVESTIGATORS:

Jarilyn Haney, Ed Harris

PURPOSE:

This study involves research that will explore reasons as to why there are differing beliefs about the existence of dyslexia among Oklahoma educators.

PROCEDURES

The observation will last approximately 30-45 minutes. The face-to-face interview is designed to last approximately 30 minutes. Some artifacts may be collected.

RISKS OF PARTICIPATION:

There are no known risks associated with this project which are greater than those ordinarily encountered in daily life.

BENEFITS OF PARTICIPATION:

If you are interested, we will send you a copy of the results of the study when it is finished.

CONFIDENTIALITY:

The records of this study will be kept private. Any written results will discuss group findings and will not include information that will identify you. You will not be identified individually.

CONTACTS:

You may contact any of the researchers at the following addresses and phone numbers, should you desire to discuss your participation in the study and/or request information about the results of the study: Jarilyn Haney, M.Ed., Jarilyn.haney@okstate.edu, (918)759-7242 or Ed Harris, Ph.D., 2425 Main Hall, Email: ed.harris@okstate.edu, Oklahoma State University, Stillwater, OK 74078, Office (918) 594-8509 or (405) 744-7932. If you have questions about your rights as a research volunteer, you may contact the IRB Office at 223 Scott Hall, Stillwater, OK 74078, 405-744-3377 or irb@okstate.edu

PARTICIPANT RIGHTS:

I understand that my participation is voluntary, that there is no penalty for refusal to participate, and that I am free to withdraw my consent and participation in this project at any time, without penalty.

CONSENT DOCUMENTATION:

I have been fully informed about the procedures listed here. I am aware of what I will be asked to do and of the benefits of my participation. I also understand the following statements:

I affirm that I am 18 years of age or older.

I have read and fully understand this consent form. I sign it freely and voluntarily. A copy of this form will be given to me. I hereby give permission for my participation in this study.

_____ _____

Signature of Participant Date

I certify that I have personally explained this document before requesting that the participant sign it.

_____ _____

Signature of Researcher Date

APPENDIX E

Subtypes of Dyslexia

• Direct Dyslexia. Direct dyslexia refers to the ability of the individual to read words aloud correctly, yet not comprehend what he or she has just read.

• Dyseidesia Dyslexia. Such an affected individuals will have poor sight-word vocabularies and will rely on using time consuming word attack skills (a phonetic approach) to decode many words. As a result, students with this condition will read laboriously. Decoding becomes inaccurate for many phonetically irregular words, log for laugh. Characteristic spelling errors include phonetic equivalents for irregular words, such as rede for ready.

• Dyseidetic Dyslexia. Children with the dyseidetic type of dyslexia are able to sound out individual letters phonetically but have trouble identifying patterns of letters in groups.

Their spelling tends to be phonetic even when incorrect (laf for laugh). Children in this group have deficits in vision and memory of letters and word shapes, making it difficult for them to develop a sight vocabulary. However, they have the ability to acquire adequate phonetic skills.

- Dyslexia with Dysgraphia (Deep Dyslexia). With this condition, a person has a problem in writing letters and words, grasping word-meanings, integrating the sounds of letters, and in pronouncing unfamiliar and, sometimes, even familiar words. People in this category face the biggest challenge and need our closest attention for educational and career planning.
- Dyslexia without Dysgraphia (Pure Dyslexia). This disorder occurs when a person has problems reading but not writing. Some students with pure dyslexia have trouble doing written arithmetic because they have to read the text and the numbers, but may not have any problem doing spoken arithmetic. Dyslexia without dysgraphia may never be identified, because, to confuse matters, a person may have nearly normal oral language and his or her writing and oral spelling may be virtually unimpaired.
- Dysnemkinesia Dyslexia. Dysnemkinesia involves minimal dysfunction of the area of the motor cortex involved in letter formation. Individuals with this disorder can be characteristically distinguished by their frequent letter reversals, such as d for b, as in doy for boy.
- Dysnomia. A type of dyslexia specifically associated with difficulties in naming and naming speed.
- Dysphonetic Dyslexia. Dysphonic readers have difficulty relating letters to sounds, so their spelling is totally chaotic. They are able to recognize words they have memorized but cannot sound out new ones to figure out what they are. They may be able to read near the appropriate grade level but are poor spellers. Dysphonetic dyslexia is viewed as a disability in associating symbols with sounds. The

misspellings typical of this disorder are phonetically inaccurate. The misreadings are substitutions based on small clues, and are also semantic.

- Literal Dyslexia (Letter Blindness). With this condition, a person has difficulty identifying letters, matching upper case letters with lowercase, naming letters, or matching sounds with the corresponding letters. Here, a person may read individual letters of the word but not the word itself, or read a word, but not understand the meaning of the word. Some people with literal dyslexia may read words partially. For example, a person may read the word lice as ice, or like. The person may realize that these words are incorrect, but cannot read the words correctly. Some people with literal dyslexia do better by moving their finger along the outline of a word, or by tracing the letters in the air.
- Mixed Reading Disability Dyslexia (Alexic Reading Disability). Children with mixed reading disabilities have both the dyseidetic and dysphonic types of reading disorder. This subtype combines the deficit of the first two groups. This person may have disability in both sight vocabulary and phonetic skills. People with this form of dyslexia are usually unable to read or spell.
- Neglect Dyslexia. This condition occurs when a person neglects the left or the right side of words, a problem particularly highlighted in reading long words. For example, if asked to read strowt, he or she may read it as owt. Given a word such as alphabetically, persons with this particular form of dyslexia will miss some of the first few letters. For example, they may read it simply as betically. There may be a problem with compound words. For example, a compound word such as cowboy may be read partially, as cow or boy.

- Phonological Dyslexia. This disorder occurs when an individual has difficulty in converting letters to their sounds. They can read words that are already familiar to them, but have trouble reading unfamiliar or novel words. They also have difficulty in reading a nonword such as tord. They may misread this nonword as a real word that looks similar. They sometime also misread actual words as other ones that look similar. The word shut may pose this particular problem, much to a listener's dismay.
- Primary Dyslexia. This is a dysfunction of, rather than damage to, the left side of the brain (cerebral cortex) and does not change with maturity. Individuals with this type are rarely able to read above a fourth-grade level and may struggle with reading, spelling, and writing as adults. Primary dyslexia is hereditary and is found more often in boys than in girls
- Semantic Dyslexia. This occurs when a person distorts the meaning of a word or incorrectly reads a word because of the confusion in the meaning of the given word. People with semantic dyslexia may say an antonym, a synonym, or a subordinate of a word instead of the word proper. For example, they may misread dog as cat or fox. They may misread twist as twisted, or buy as bought. Some have trouble reading function words such as of, an, not, and and.
- Spelling Dyslexia. This occurs when a person has problems reading all types of words and sometimes has trouble identifying individual letters. Their reading is extremely slow and hesitant, particularly on long words. While a normal reader takes about 30 milliseconds for reading each additional letter, a spelling dyslexic

may take about a second to do the same. Some dyslexics tend to read words one letter at a time, even if the words are short and familiar.

- Surface Dyslexia. This condition occurs when a person can read words phonetically but has problems with whole word recognition (i.e., yacht = yachet).
- Trauma Dyslexia. This condition usually occurs after brain trauma or injury to the area of the brain that controls reading and writing. This type of dyslexia is rarely diagnosed in today's school-age population because they will often receive a classification in special education of Traumatic Brain Injury (TBI) rather than LD.
- Visual Dyslexia. People with this condition usually cannot learn words as a whole component. There are problems with visual discrimination, memory synthesis, and sequencing of words. Reversal of words or letters when reading, writing, and spelling is common. (NASET, 2008, p. 7-9)

VITA

Jarilyn Haney

Candidate for the Degree of

Doctor of Philosophy

Dissertation: IT ONLY TAKES ONE TEACHER TO MAKE A DIFFERENCE IN THE LIFE OF A STUDENT WITH DYSLEXIA: A CONTENT ANALYSIS

Major Field: EDUCATION

Biographical:

Education:

Completed the requirements for the Doctor of Philosophy in Education at Oklahoma State University, Stillwater, Oklahoma in May, 2021.

Completed the requirements for the Master of Science in Reading at Northeastern State University, Tahlequah, Oklahoma in 2013.

Completed the requirements for the Bachelor of Science in Mild/Moderate Disabilities at Northeastern State University, Tahlequah, Oklahoma in 2010.

Experience:

Teaching in higher education in the Special Education program at Northeastern State University since 2016.

Working as a special education teacher and teaching students with disabilities in an Oklahoma public school setting.

Professional Memberships:

Council for Exceptional Children (CEC)