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Teacher Training To Identify Students With Dyslexia. Implementation Of Accommodations To Help Students Be Successful

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TEACHER TRAINING TO IDENTIFY STUDENTS WITH DYSLEXIA.

IMPLEMENTATION OF ACCOMMODATIONS TO HELP STUDENTS BE SUCCESSFUL

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Table of Contents

CHAPTER 4: RESULTS

CHAPTER 5: CONCLUSION

CHAPTER ONE

Introduction

The church bulletin read, JOYFUL JOYFUL WE ADORE THEE p. 364. Members of the congregation began to stand and pull out hymn books from the pews in front of them. As the organ played the first cord, I had a sinking feeling. I looked down at my hymnal because I realized from the initial chords of the organ that I had opened to the wrong page. I was ready to begin singing SEEK YE FIRST p. 346. My primary reaction was frustration that I had done it again. Why was I continually transposing my numbers? I even double checked this time.

It finally became somewhat of a running joke in my family that I was "dyslexic." In early grade school, I did not understand what the term dyslexia meant but I liked the way the word sounded. It was an excuse for the way I continually transposed my numbers.   At that time, I did not know how my severe spelling issues, comprehension struggles, inability to spell out loud, failure to identify left from right, confusion with the order of the alphabet, anxiety about reading out loud in class and poor test scores were all related to dyslexia. Over the past several years, graduate level education courses have introduced me to the various different learning styles and disabilities. This information has enlightened me to the fact that I have presumably been struggling with the reality of dyslexia my entire life.

I can remember the juxtapose of my dyslexia starting as early as fourth grade. I was sent to a spelling specialist because I was unable to memorize my spelling words or spell basic words correctly. I can look back at my diary and I spelled the word "diary" different every single day in hopes that at least one of the times it would be spelled correctly. My fourth grade teacher however realized the discrepancy between my intelligence level and my spelling and reading skills. She placed me in an advanced group called Spectrum where the "smart" kids were pulled

out of class to work on advanced projects. She was able to recognize my strengths in the midst of my struggles.

Throughout middle school and high school, I worked hard to get B's or B-'s. I loved math and did not have a problem getting A's on my math tests. I studied just as much as my friends in the subjects of reading, science and social studies. I would think I did really well on a test because I knew the information then I would get the test back and my grade would be terrible. I began to doubt my abilities and wonder if I was not really that "smart." I can remember being jealous of my friends who were in the Advanced Literature courses. I understood the information, I just was not able to demonstrate my knowledge well enough to secure my spot in the advanced class.

Studying a foreign language was also very difficult for me. My Spanish classes relied heavily on memorizing information, something that tended to be one of my weakest areas. I knew I needed two years of a foreign language to get into a four-year college so I stuck with it and barely squeezed by with a passing grade.

Taking the ACT (American College Testing) was another negative experience. I had a slight cold the first time I took it so when I received my score, I was disappointed but I made the excuse that I was not feeling well. I put in the additional study time to re-take the ACT for a second time. I felt confident as I left the room that day because despite the test anxiety that most people with dyslexia face, I actually thought I did pretty well. It turns out my score was not as great as I thought it would be and I was on the borderline for most college acceptance requirements. I was however able to convince my college counselor to look at the bigger picture of my potential and allow me acceptance at Hamline University. I may not remember the name

of the lady was who advocated for my acceptance that day but I am forever grateful for her ability to see my potential and believe in me.

College brought on its own set of hurdles. I chose classes where projects or papers were required to demonstrate my knowledge instead of test taking. I continued a low "B" average throughout my time at Hamline. I would receive multiple comments from professors telling me that if I just tried harder, I would do better in their class. Frustration really started to set in at that point because I was trying as hard as I could and I was not able to show my intelligence in the ways I was being assessed.

I would mask my inabilities around my friends and fellow classmates. I did not want them to seem me as different yet I always felt slightly inadequate. There were moments of thinking, "if they only knew how much I struggled, they would wonder why I am even here." I proudly graduated with a Bachelor's Degree in Management yet not very gracefully.

A few years later, I applied for the Master's of Arts in Teaching program at the Hamline University Graduate School. My undergraduate professor and advisor wrote a special letter of recommendation to the MAT admittance board explaining that my grades in the undergraduate program did not display my true potential. She guaranteed them that I would "work harder" in grad school to be more successful. It was great that she realized my true potential but also hurtful because I knew that I was working as hard as I could.

Beginning to understand the complexities of dyslexia was ultimately what would would mold my education. Each graduate level education course I completed gave me a better understanding of the complexities of the learning process. I was beginning to discover what type of learner I am and how I need to accommodate my studies and communication with my professors to be successful. I am in the completion phase of this MAT program and I am proud

to say that I will be wearing those shiny cords on graduation day because I have a 4.0 GPA going into my final semester. It was not necessarily a certain amount of "effort" that could make me be more successful and demonstrate my true intelligence. I needed to understand the characteristics about dyslexia and plan my educational path accordingly which leads me to ask: What if teachers can do that for kids in grade school as opposed to graduate school? Just imagine the world of possibilities for those kids!

Purpose of Study

Throughout my research process, I will identify the definition of dyslexia by creating a full picture of misconceptions, discrepancies to the definition and the stigma attached to the definition. I will continue to pose the question of *What does dyslexia look like in a classroom?* to gain perspective on what teachers already know and what they need to know.

My initial chapter for this research topic explains my rational for choosing the topic of dyslexia. I have gone over my personal connection and my readers will learn about the struggles and hardships I had to face. I have nearly all of the signs of dyslexia yet I have never officially been diagnosed. I did not receive any special services or accommodations.

This leads me back to my original question "*What does dyslexia look like in a classroom*? I have formed an action research plan that has the purpose of identifying teacher understanding and strategically accommodations for dyslexia. My goal is to uncover the current strategies and accommodations being made to optimize growth for dyslexic students.

Case Scenario

Meet Allison, a fifth grade student I taught who had a diagnosis of dyslexia. She did not qualify for any special assistance put into place by an IEP (Individual Education Plan). Parent/teacher conferences took place at the beginning of October for our school. I was made

aware of Allison's dyslexia diagnosis for the first time at conferences. I began to speak with her parents about Allison's difficulties with fluency and her trouble with comprehension. It was then that her parents told me about her diagnosis. Her parents assumed I was aware of her diagnosis but it caught me slightly off guard. The truth is, I had no idea she was dyslexic. I reviewed her transfer card from 4th grade and it did not list anything about her diagnosis. I continued my research and found a note in her cumulating folder held in the office. The school was made aware of her diagnosis and put her through our I-team process. A supportive circle of teachers and other staff members agreed that Allison did not qualify for an IEP.

I felt as though I had failed her as a teacher because I was not trained to identify the signs of a student who has dyslexia. At that point, I knew a lot about my own struggles but I did not translate that knowledge into my students.

I learned a lot about Allison throughout the year. She loved to read out loud in class. Even though she struggled with fluency, she was so brave and willing to share her writing or read the latest science or social studies news. With no specific IEP, I was unable to give Allison accommodations in a formal assessment such as the Minnesota Comprehensive Assessments (MCA) and the North West Evaluation Association (NWEA) standardized test. I was, however, able to give her extra time in class. I read math problems out loud for her and assessed her based on her true knowledge rather than a standardized test where she had to memorize information. I worked my very best to create hands on activities where we had visuals and manipulatives. Overall, these are great strategies for any learner. The reason why I put in extra effort for Allison was because I began to empathize with her and understand her. I did not need a specific list of accommodations to begin implementing strategies that would work for Allison.

Allison's parents chose to hire a private tutor to teach her additional skills which would ultimately help her succeed in school. She was learning fantastic skills that could be applied to her every day learning. It was a privilege for Allison to receive this extra support but it came at a cost. Her parents paid a significant amount of money to hire a private tutor. Many dyslexic students do not have the same privilege of a private tutor.   The responsibility then falls mainly on the teachers to take dyslexic students out of the "box" of struggling readers and find strategies that will work for a dyslexic learner.

I am curious to find out if teachers are trained to identify the signs of dyslexia and if so, what are they doing to accommodate students in a mainstream classroom. Many students with dyslexia do not qualify for an IEP and do not receive special education services. I want to know more about how teachers view dyslexia and if teachers are doing their part in the identification process. Some of my initial questions were:

What is dyslexia?

What are misconceptions about dyslexia?

Who identifies and diagnoses dyslexia?

What accommodations are made with an IEP plan in a classroom?

What accommodations are being made without an IEP plan in a classroom?

What type of strategies are used in schools to accommodate students with dyslexia?

In my experience it seems as though many learning disabilities, such as Attention Deficit Hyperactivity Disorder (ADHD), get a significant amount of attention but dyslexia falls through the cracks in many cases. I am doing this study because it connects to me personally. Dyslexia is something that could potentially affect my 7-year old son or 6-year old daughter. What can I do for my kids and for my future students to ensure that I am meeting his or her needs to the best of

my ability? I want to be aware of warning signs and support students who struggle with dyslexia.

Conclusion

In this section, I have told how my personal story has ignited my passion for research in the area of dyslexia. I have experienced the characteristics of dyslexia full circle as a student, teacher and parent. My personal story exposes my real-life struggles and my effort to hide these struggles. As a teacher, I have also had experience with at least one dyslexic student who taught ME how to make accommodations to help her in the ways she needed to be helped. In this next chapter, I will conduct a literature review using my research question of *What is being done for students with dyslexia in our schools?* as a guide. As I began to dive into the literature, I found myself wanting to dig further and learn everything I can about this topic to help me better understand my students, my kids and myself.

CHAPTER TWO

Literature Review

<u>Overview:</u>

The purpose of this chapter is to identify my leading question and use literature to create the building blocks for my research. The question being asked is: *What is being done for students with dyslexia in our schools?* This chapter will review expert research and methods on teacher awareness about dyslexia. It will also include the various methods and strategies used to support a person with dyslexia.

Chapter 2 will begin by comparing and contrasting the various definitions that were uncovered in the literature review on dyslexia. Following the definition an examination of common misconceptions that society, including teachers, have about this learning disability will be done. There is a significant amount of brain research to support the definition. This chapter will also address an overview of what dyslexia looks like in elementary schools. There will be an outline of the rights and accommodations for someone with dyslexia. It examines the stigma and perceptions of dyslexia. Finally, the heart of this literature review examines how teachers have been trained to identify students who may have dyslexia. Findings on the strategies that some teachers are currently using in the classroom will be stated.

Dyslexia is a very complex learning disability and many experts and researchers have opinions about the actual definition of dyslexia. The beginning section of this research is a review of the literature found on the definition of dyslexia. Much of the current information attained for the literature review of the definition was based out of the Yale Center for Dyslexia and Creativity. I found the information from Yale to be very fundamental throughout the literature review process.

<u>Definition</u>

The research question is: *What is being done for students with dyslexia in our schools?* One in five kids in American schools have dyslexia (Yale, 2015). Dyslexia is a language-based learning disability that affects literacy in the areas of comprehension and oral and written expression (Wilson, 2010). Dyslexia affects more children in the classroom than any other learning disability (Wilson, 2010). It is a cluster of symptoms that result in difficulties with specific language skills, especially reading, but also spelling, writing and pronouncing words (Wilson, 2010). The initial part of this section will discuss the main definition for dyslexia while also entertaining other views and biases about the definition. This focus will also include a multitude of signs and symptoms that someone with dyslexia may possess. All the research shows that early identification is best. It is much better for the child as they can then become a compensated dyslexic (Bohdanowicz, 2015).

According to the experts at Mayo Clinic, dyslexia is a learning disorder characterized by difficulty reading due to problems identifying speech sounds and learning how they relate to letters and words. Dyslexia occurs in children with normal vision and intelligence (Mayo 2014). Sometimes dyslexia may go undiagnosed for years and isn't recognized until adulthood. There's no cure for dyslexia. It's a lifelong condition caused by inherited traits that affect how your brain works. Most children with dyslexia can succeed in school with tutoring, accommodations or a specialized education program. Emotional support also plays an important role in success (Mayo, 2014).

The Learning Disabilities Association of America has an extensive list of signs and symptoms that a person with dyslexia may exhibit. Here is a list the signs and symptoms from

the LDAA website then additional signs and symptoms will be added that were found in the literature (LDAA, 2002). Most students will have a variation of these signs but not all of them.

- Student may read slowly and painfully

- Experiences decoding errors, especially with the order of letters

- Shows wide disparity between listening comprehension and reading comprehension of some text

- Has trouble with spelling

- May have difficulty with handwriting

- Exhibits difficulty recalling known words

- Has difficulty with written language

- May experience difficulty with math computations

- Decoding real words is better than nonsense words

- Substitutes one small sight word for another: a, I, he, the, there, was

- Short term memory loss

- Confuse lefts and rights

- Words seem to dance around on the page

- Trouble recognizing the sounds that make up words

- Difficulty translating printed words into spoken words

- May struggle to learn the alphabet and numbers during preschool or kindergarten

Dyslexia Action describes dyslexia as a specific learning difficulty that makes it hard to read and spell. A contradictory view states that that the definition of dyslexia is "so broad that it has no educational value" (Ward, 2015). Some may argue that the definition is so vague, teachers would have a hard time differentiating between someone who struggles academically

and someone who has dyslexia (Ward, 2015). The comprehensive laundry list of signs and symptoms is extensive and could be asking too much for a teacher to memorize. One of the goals in this process is to discover the optimal amount of teacher education and training to help a student with dyslexia.

Many of the signs and symptoms listed above are common in primary grades. Children with dyslexia, however, continue to show many of these signs after their peers have stopped, usually by first or second grade. It is really important to recognize dyslexia early before third grade. Treatments started early are more effective (Komaroff, 2013).

Misconceptions

Many dyslexia experts are continually correcting the misconceptions of dyslexia. Dyslexia is often misunderstood as simply bad spelling or reversing of letters, when, in fact, the language difficulties experienced by a student with dyslexia often go far deeper (Lawrence & Carter, 1999). Dyslexia is a learning disability that stymies the acquisition and processing of language, a condition that hinders not only reading and comprehension but also oral and written expression (Wilson, 2010).

Dyslexia a cluster of symptoms and continues to reiterate that early detection of this learning disability will significantly benefit the student (Lawrence & Carter, 1999). No two dyslexic students are exactly the same (Reynolds, 2011). In one study, an 8 year veteran dyslexic tutor gave an example of a student who had fantastic reading fluency but fell behind in comprehension. He had another student who was fantastic at math and that used to cover up some of the problems in reading (Reynolds, 2011). Just because a person has been labeled as "dyslexic" they do not fall into a cookie cutter mold. The next section will focus on what dyslexia looks like in our schools and how teachers need to adapt to the needs of each student.

Another misconception is that people with dyslexia are not as intelligent as others. Dr. Wolf is a currently an author in the area of literacy with a specific focus on dyslexia says that, reading is not equitable with intelligence (Journey, 2010). So often our society puts reading and intelligence in the same box when, perhaps, we need to think outside of that box (Journey, 2010). Bohdanowicz, a journalist for the *Times Educational Supplement* writes an example about a girl who was continually frustrated and began to consider herself "stupid." This girl was not stupid at all, in fact, she was particularly bright with wide-ranging interests and sophisticated opinions. She had strong visual, creative and problem-solving skills (Bohdanowicz, 2015).

It has been found time and time again that the IQ and academic level of someone with dyslexia do not influence each other in most cases. It is simply about how students learn and retain information differently. Research scholar and dyslexia specialist for Cockett Elementary School in San Marcos, Texas, C. Bagley, talks about how students need to get their information through other channels, sometimes literally (Wilson, 2010). Most kids love the Discover and National Geographic cable Channels. They're little sponges, and reading to get that much information is so much more difficult for them to do. They can tell me about a movie they saw four years ago and can't tell me about a story they read yesterday." (Wilson, 2010).

Diagnosis

In many cases, teachers tend to use a "hand's off" approach when it comes to identifying a child as dyslexic. Educators may not want to say the wrong thing to a parent or they may feel that it's the job of other professionals such a pediatrician, psychologist or special education to initiate the diagnosis (Lawrence & Carter, 1999). A diagnosis of dyslexia would pinpoint the problem and help children get the appropriate reading instruction to be successful in school.

Shaywits in the book <u>Overcoming Dyslexia</u> (2005) gives a simple yet effective tool for teachers to use right in their own classroom to detect early clues of dyslexia and act accordingly.

Identifying

- A weakness in getting to the sounds of words

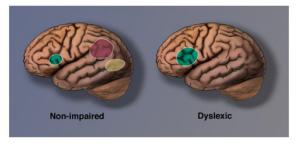- The strengths in thinking and reasoning

Providing

- Early help for the weakness

- Accommodations to help access the strengths

Diagnosis testing takes a significant amount time, energy and financial support. There is a series of testing on phonological awareness, intelligence, brain function, etc (Shaywitz, 2005). It is important for parents to remember that they are investing in their children and if a child is in fact diagnosed with dyslexia, they are receiving that information with the purpose to help their child. Often times, parents and teachers may be reluctant to have a child evaluated because they think the child will outgrow the reading problem. This is a learning disability that cannot be out grown but can be supplemented with strategies of compensation (Shaywitz, 2005). Dyslexia is hereditary and often times if a parent has signs of dyslexia, his or her child may show signs as well. It is important that parents and teachers are aware of the signs to watch for in a student who struggles with reading (Shaywitz, 2005).

Dyslexia is a problem that's going to affect more children in the regular classroom than any other single learning disability. Dyslexia is a paradox because most people that have it are very smart but read slowly. Shaywitz, a researcher and developer at the Yale Center for Dyslexia and Creativity revolutionized the study of dyslexia by using brain imagery. It is used to show the part of the brain crucial to word formation and automatic reading operates inefficiently in

dyslexics—and renders many of them tortuously slow readers. For someone who is dyslexic, it often may feel like you are operating on manual instead of automatic (Shaywitz, 2005). The goal of the Yale Center for Dyslexia and Creativity is to understand the science behind dyslexic learners and translating that research into new policy that can be used in classrooms. Dyslexia is a lifelong condition that cannot be cured. Students, teachers and parents need to be educated on the topic and collaborate to ensure student success (Shaywitz, 2005).

Brain Imaging

Dr. C Greider from the Yale Center for Dyslexia and Creativity says that because of brain imaging, there should be no doubt that someone has dyslexia by the way their brain lights up. When a person who does not have dyslexia reads a passage, three parts of their brain light up. The three parts are the Broca's area (inferior frontal), the parieto-temporal and the occipito-temporal (Yale, 2012). Each of these areas have different functions mainly on the left side of the brain that serve to put together word analysis and articulation. For someone with dyslexia, only the Broca's area lights up when reading (Yale, 2012).

Neural Signature for Dyslexia:
Disruption of Posterior Reading Systems

© Sally Shaywitz, *Overcoming Dyslexia*, 2003

Figure 1.1

Figure 1.1 shows what happens in a person whose brain is non-impaired begins to read and sound out words. The green, red and yellow show the three different areas of the brain that light up when a person who does not have dyslexia is asked to phonetically sound out words. The

18

second image is what happens in the brain of someone who has dyslexia. This pattern of under activation in the back of the brain provides a neural signature for the phonologic difficulties characterizing dyslexia (Shaywitz, 2005). There is now a scientifically based approach to identifying a person with dyslexia. The Yale Center for Dyslexia and Creativity does this type of brain scanning but most students who are being assessed for dyslexia have the resources and accommodations to go through this type of testing. What happens for all of the students who do not have the opportunity to have a brain scan?

Identification in the Classroom

When it comes to identifying a dyslexic student, who is responsible? So often obligation and blame can be pushed from parent to teacher to doctor to administrator. I recently read an article from the Yale Center for Dyslexia and Creativity written by K. Redford. The article was directed at teachers and titled, Trusting your Teaching Intuition – Kids Can't Wait: Strategies to Support Struggling Readings Which Don't Require a Ph.D. in Neuropsychology (2014). In the article, Redford talks about how he feels like he completely missed the mark when it comes to identifying students with dyslexia. He feels like he failed his students (unintentionally) because he had a blind spot. He would follow appropriate protocol by having the students screened, evaluated and he would wait for a report. He realizes that by waiting for this process to take place, he could have been putting accommodations in place for these particular students in a much timelier manner (Redford, 2014). The importance of putting immediate accommodations in place while waiting for test results will only benefit the student. He goes on to say that, "most often the report confirms what I had intuitively guessed about the student." (Redford, 2014). Later in this chapter under the teacher techniques and strategies, I address the accommodations that Redford put into place.

The Yale Center for Dyslexia and Creativity also did a short video on what dyslexia looks like in the classroom. Multiple highly successful business professionals spoke about what dyslexia looked like in their classroom while they were growing up. In each story, there was a consistency about how they knew the information as students but were not able to read it, write it or verbalize it in the right way. B. Benacerraf M.D, a world renowned radiologist at Harvard University gave a personal example of how anxiety would set in during class read aloud time in elementary school. Dr. Benacerraf would count ahead the paragraphs during class read-aloud to prepare for the turn to read out loud in class. The next coping strategy would then be to attempt to memorize the paragraph so when it came time to read, Dr. Beacrraf would appear "normal" in class. This was just one of the many stories that these successful adults shared. Time and time again, students seem to be faced with a stigma when it came to dyslexia. There were stories of students being called "failures," "lazy," or worse: "stupid."

The problem lies in the fact that teachers are not being trained to spot dyslexia according to Bohdanowicz. Dyslexia awareness should be a compulsory element of initial teacher training (Bohdanowicz, 2015). A common theme that arises in the topic of dyslexia is that many teachers are not well versed in this topic and are interested to learn more about dyslexia. If teachers are equipped to identify and help diagnose early on, they can offer the accurate help.

Rights

The American's with Disabilities Act was enacted eighteen years ago and was meant to level the playing field for people with disabilities. Congress intended a broad range of people including those who are dyslexic to be protected by law. Shaywitz, author of Overcoming Dyslexia (2005) was asked about how the ADA has been interpreted by the supreme court and the high-stakes testing agencies. She says:

"They have chosen to interpret the ADA in a way other than congress intended. In the case of dyslexia, they have interpreted it to severely limit who is covered by the ADA – seeming to totally disregard the spirit and intent of the ADA and scientific evidence pointing to the absolute need for the accommodation of extra time for people who are dyslexic." (Shaywitz, p. 135, 2005).

Shaywitz continues to address the other serious concern with the manner the ADA is that it has been interpreted incorrectly in regards to the average person. Testing agencies have interpreted the law to mean that if you are reading at the level of an average person, then you are not disabled (Shaywitz, 2005). The paragraph goes on to talk about how the approach to the definition may work for physical disabilities and if a person is performing at an average rate, they would not need accommodations. The very core of the issue is that a person's reading ability is being compared with the intelligence. The accommodation of extra time on tests levels the playing field, allowing hardworking dyslexics to access their strengths and demonstrate knowledge (Shaywitz, 2005).

The following list is taken from the Yale Center for Dyslexia and Creativity. It lays out the Rights that Every Child with Dyslexia has (Yale, 2015) :

- Accurate Diagnosis: Students who have a suspected area of disability are entitled to an assessment, regardless of whether they are in public, private or charter school.

- Use the word dyslexia: Schools must use the word "dyslexia" so that proper diagnosis and evidence-based instruction and intervention can be applied.

- Evidence-Based Instruction: All students deserve to have a written plan of action from the school, specifying the evidence-based intervention, frequency and measurable objectives. This must be arrived at by a consensus between parents and teachers.

- Accommodations: Accommodations must be provided to ensure that the students' abilities, not their disabilities are being assessed. Examples: extra time on tests, speech-to-text or text-to-speech technology, foreign language waiver or alternative.

- Dyslexia-Friendly Environment: A supportive environment that promotes educational and professional progress must be provided to enable dyslexic individuals to flourish to their full potential.

Students with dyslexia have these rights in school but sometimes it comes at a cost and is attached to a stigma. Many of these qualifications will lead to a student being classified as "special ed." While the accommodations may be what is ultimately best for a child, a social and academic stigma may come with the diagnosis.

Stigma

There should NOT be a stigma attached to dyslexia, however, that is not always the case. The term can focus on what a child cannot do instead of finding out what they can do. A dyslexic diagnosis and the label of a learning disability could negatively impact a child over the course of their entire life. Recent case studies and research are focusing on the stigma as it relates to feelings of self-worth and self-belief.

Many people do not understand people with dyslexia have a wide range of intelligence levels. Strong visual, creative and problem solving skills are also associated with dyslexia. This also comes full circle back to teacher training and how to use strategies that will work to build on such strengths.

Dr. Connor, a professor at Hunter College says that a label is MEANT to be beneficial but in many cases it can be detrimental for kids (Raymond, 2011). Connor goes on to talk about how labeling students with specific learning disabilities or "special ed" can classify dyslexic students

22

in a way that they can be treated like second class citizens and there is a dropout rate of 50% for students with dyslexia. (Raymond, 2011)

Story after story is being told about successful adults who were called a failure and were told that they would not amount to much (Raymond, 2011). The stigma associated with dyslexia is real for some people and in many cases, students are not able to overcome the stigma.

S. Walker, the CEO of New England Wood Pellet said the root cause of the problem with teaching dyslexic students is how we are teaching, not the way the kids are learning. Teachers need to try to fix the affect, not the cause (Raymond, 2011).

Teachers Role

The main part of this section will discuss how teacher training plays a fundamental role in the strategies that work for diagnosis and working with dyslexic students. Teachers are not being trained to spot the disorder and dyslexia awareness should be a compulsory element of initial teacher training (Bohdanowicz, 2015).   If teachers are equipped to diagnose dyslexia early on and specialists can offer the correct help, more students would be able to cope with the challenges.

In Foss's book The Dyslexia Empowerment Plan the three types of reading: *eye reading, ear reading* and *finger reading* are described in detail. Eye reading is what children are taught in school but it's not better than ear or finger reading in terms of information absorption or comprehension (Foss, 2013). The book talks about how eye reading is the default for most education. A person who is blind would use ear and finger reading. No one would even think to try to teach them eye reading. Foss explains that it is similar with dyslexics because eye reading is not the most ideal tool for learning. Ear reading is a much more successful method for a person with dyslexia. Focusing on eye reading overlooks the real goals of education, which are

learning, independent thinking and mastering the ability to make new connections in the world of ideas (Foss, 2013).

The wonderful thing is that all strategies that work for dyslexic learners can work for ANY student. One the goals in this literature review is to identify strategies that teachers are using specifically for dyslexic learners and to figure out how those methods could be applied to benefit ALL learners. With support, most children with dyslexia adjust to their learning disability. And with early and appropriate treatment, many people with dyslexia go on to succeed in school and in their careers (Komaroff, 2013).

An environment where teachers can understand, identify and educate dyslexic learners puts teachers squarely on the front line and they need to be ready. It used to be that one-on-one instruction took place in learning centers or a special education classroom. Now classroom teachers are becoming critical players in responding to the learning styles of dyslexic students and helping them succeed in a differentiated learning enviornment. This is putting more expectations on the classroom teachers as the "pull out" times have decreased and the emphasis on classroom teachers changing their instruction to accommodate diverse learners has increased (Williams, 2010).

Strategies

The good news is that what works for dyslexics in the classroom can work well for all students (Wilson, 2010). This section will tie together the importance of teacher training, implementing strategies and finding something that will work in any classroom. A multisensory, structured language approach that involves several senses (hearing, seeing, touching) is best. Many individuals with dyslexia need one-on-one help so that they can move forward in their own place.
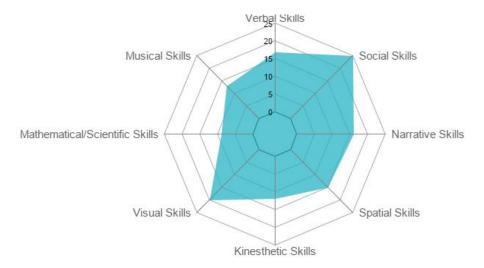
Phonics

Dyslexic students who receive interventions in phonics have proved through neurological scanning to show improvement over those who do not receive phonological interventions. Phonics training helps students create the missing link for what the brain of a student who has dyslexia is unable to to on their own (McAurthur, 2015). The Orton-Gillingham is one of the most well known approaches for students with dyslexia. The research action plan portion of this capstone, will be to observe teachers who have been specifically trained to use the Orton-Gillingham approach for teaching phonics. These observations are listed in Chapter 4 under the research results portion of my action research method plan. Teachers can help students with dyslexia even without the specific training. It is important to help a student develop phonological skills by working more on phonemes and blends. Distinguish and identify the sounds of words and work to link phonemes to corresponding letter. There are several strategies to teach phonics, one approach is to use multisensory applications (McAurthur, 2015).

Multi-sensory

It is important to define a child's strengths (this is true for dyslexic and non dyslexic learners). By identifying strengths, a parent or teacher is able to support the learner in the way they learn best. Foss (2013) created a tool to help parents and teachers learn how their child processes information. The tool is a Strength Star and it assesses eight different strengths that a child may possess. The assessment is designed to learn the students top three strengths and build from there. The different areas of strength are: verbal, social, narrative, spatial, kinesthetic, visual, mathematical/scientific and musical (Foss, 2013). This would be good test for any teacher to use to identify how their students learn best. It will quickly show a teacher that students have a variety of learning strengths.

A student with dyslexia will have a better rate of success if a teacher is identifying these strengths and teaching to the strength. Here is a list of suggestions for the 8 strengths followed by an example of a strength star.

- Visual: storytelling, dramatic play, acting, debate

- Social: leadership role, speaking in front of class, helper

- Narrative: writing (or speech-to-text app), film making (iMovies), animation

- Spatial: hands on learning, putting objects together, crafts

- Kinesthetic: movement, sports, dance, hiking outdoor

- Visual: drawing, painting, graphics

- Mathematical/Scientific: problem solving, experimenting

- Musical: instruments, music lessons, putting lessons to song

Here are just a few practical classroom ideas that are easy to do but could significantly improve the learning for a student with dyslexia: write letters in sand, Wikki Stix, glitter letters, mnemonic rhymes, draw pictures, act out words, skit, art project, iMovie and draw a model for a math problem.

If teachers can apply some of these strategies to ALL learners, they will be tailoring their teaching to multiple types of learners. Teachers have a responsibility to recognize the range and diversity of each student. This is a big responsibility for teachers but if they are cognizant about varying their teaching styles to encompass ALL learners, they will have a better chance of meeting the needs of the diverse learners.

Audio

For a student struggling with understanding the classroom reading assignments, suggest listening to audio books or identify a willing adult to read the assigned book to the student. Many times this could be a parent volunteer or classroom aid. It is recommended for a student to read along with the book version next to the oral reader. Exposure to both the audio version and the actual words will give the reader a better understanding of the text and help with spelling and conventions.

People with dyslexia often have trouble understanding words they read, yet, they usually can understand words that are read aloud by another person. Shaywitz (2005) writes about the idea of a "learning ally." Students with dyslexia are able to comprehend and retain information when it is presented in audio form. The purpose of a learning ally is to have someone who can help the student by reading information out loud. The learning ally is generally someone close in the child's life such as a parent (Shaywitz, 2005). Shaywitz made an informational video where she talks about learning allies. In the video she discusses how the intelligence level of a dyslexic learner is not discovered when they are being asked to read and comprehend on their own. She gives an example of girl who had a learning ally who would read the information for her. The confidence level in this girl grew significantly and she just looked like a much happier person.

Her motivation, intelligence and creative thinking were hidden because she would struggle so much with reading each word (Shaywitz, 2003).

Technology

Technology has done wonders for students being able to use audio as a tool for "ear reading." Foss founded the product that can snap a picture of text and turn it into an audio version (Foss, 2013). Foss works at Intel Corporation and has made strides in the field of information technology for dyslexic learners. Assistive technologies are currently available in several formats that will read material aloud to the student. The Kindle, the iPad or Google's Nexus tablet are all examples of types of technology that can be used to read material aloud.

Foss also has a short video on his website about how to turn on the speech function on a MacBook, PC or iPad. Basically the reader would turn on the function and any text that is highlighted would be read aloud. The reader can choose the voice and speed (Foss, 2013).

In a primary classroom, ear reading can also be done by using books on tape or cd. This allows for students to work on comprehension while following along with the words of a book. There are many other programs and apps out there too, such as RAZ kids, where students are able to listen to audio versions of books.

Students in middle school through graduate work could take advantage of strategies such as recording lectures rather than writing notes. This gives students an audio version to reference the learned material rather than digging through notes that are difficult to read.

Writing

When generating ideas for writing, it is important that the student is allowed to brainstorm with ease. There are multiple accommodations that can be used. For example, technology has capabilities on iPads or other devices that can put speech into text. There are

particular apps that struggling writers can use to get their ideas out.   If a paraprofessional or volunteer is available, they could also help dictate an outline or brainstorm ideas. It is also helpful to create a word bank of student ideas. The speech-to-text accommodation may be useful in the primary grades but as students get older, they may learn how to type with ease.

The keyboard and word processing techniques have been extremely useful for someone with dyslexia. Computer software checks spelling and grammar. If a dyslexic student is spending too much time worrying about the handwriting or spelling difficulties, they are unable to get ideas out. A keyboard unlocks the ability to let ideas flow more freely and the document will show where the spelling or grammar mistakes need to be fixed.

Tests and Assessments

Most dyslexic students struggle with taking tests and assessments. Between the pressure, time restriction and distraction of fellow classmates a student with dyslexia has a more difficult time showing their true potential on a test.

Offer extra time to students who need it. Many times, this is the only accommodation that struggling students may need (Fettes, 2006). Find a way to offer extra time on these formal assessments that won't disrupt the class or create other issues. The purpose of a test should be to measure a student's understanding of a topic. In most cases, besides a timed test to check automaticity of a special skill, there is no need to set a time limit on an assessment. Sometimes this is as simple as offering recess, study hall or other opportunities to finish the test.

Make the evaluation intentions clear by working with the student to let them know exactly what is being tested. Is the purpose of the assessment spelling, comprehension or writing? If a student can orally explain what happened in a story, you could have them

demonstrate their knowledge by telling you about a story rather than writing it. Fettes writes it's

not just about tools for getting through exams, but tools for getting through life (Fettes, 2006).

For any technique that is used with dyslexic learners, it is important to be consistent.

Figure out how a student learns best and hangs on to information. Help support them in those

techniques. The teacher's job is to help students identify how they process information most

efficiently and effectively (Redford, 2014).

Additional Accommodations

It is already difficult for a dyslexic reader to decode text and read for comprehension.

When the element of a timed assignment is added to the mix, a person with dyslexia might as

well be reading it in a different language. As a teacher, you can help a dyslexic learner by

offering extra time to finish a reading assignment or test. Any struggling reader needs more time

to read the assigned material (Fettes, 2006).

Recommend books to a student that may be shorter and less dense but equally rich in

content for independent reading time. Students should feel a sense of enthusiasm and excitement

about reading. Some students who have dyslexia may never like reading. Foss (2013) tells a

story about how one of his mother's biggest goals in raising him was that she pushed his love for

reading. Foss didn't like to read as a kid and it turned out that he didn't like to read as an adult.

His mother admits now that she may have pushed too hard instead of focusing on his strength's

or his intelligence. It should always be the goal of a teacher in that one short year you have with

your student to foster a love for reading by providing opportunities to embrace in the excitement

and enthusiasm (Foss, 2013).

Classroom Culture Shift

Over time there have been several noticeable changes in the accommodations for students with learning disability. Here is a list of some of the changes that I uncovered in my literature review (Elliot, 2014).

- Students are receiving "in-class" strategies and accommodations as opposed to being pulled out (Elliot, 2014).

- Now teachers are allowing additional time for subjects when content can be overwhelming and additional processing is needed (Elliot, 2014).

- Reading questions out loud to students – this is common practice now.

- Rote memorization with spelling and math facts has shifted so that now teachers are providing students with tools such as tables and making accommodations to memorize fewer words at a time (Elliot, 2014).

The culture shifts in the classroom when teachers and administrators become more aware of the best practices for students. While conducting my literature review, I found a number of sources that can give parents, educators and medical professionals resources to help identify the best practices for students.

Resources

IDA (International Dyslexia Association) is an international organization that connects professionals and families in partnership for the common mission. IDA believes that all students have the right to achieve their potential, that individual learning abilities can be strengthened and that social, educational and cultural barriers to language acquisition and use must be removed. The IDA actively promotes effective teaching approaches and related clinical educational intervention strategies for dyslexics. The IDA supports and encourages interdisciplinary

research. They facilitate the exploration of the causes and early identification of dyslexia. IDA

is committed being responsible for the wide distribution of research based knowledge. This

definition is based on information from the IDA mission statement.

- Web Resources (From the IDA website)

    o Dyslexia.mtsu.edu – Middle Tennessee State University – Center for Dyslexia.

        The Center is dedicated to unraveling the puzzle of dyslexia. It is a model for the

        organization and delivery of professional services to students with dyslexia, to

        psychologists and teachers who identify and instruct them, and to schools that

        must orchestrate a broad range of factors that will enable these students to achieve

        their potential.

    o Ldonline.org An educators guide to learning disabilities. This site has recent

        articles, question and answer sections, resources and other helpful tools for

        educators.

    o Kidshealth.org There is an entire section for educators. Teachers can find various

        articles and tips for how to implement strategies and accommodations for a

        student with dyslexia.

Through the International Dyslexia Association website, I was able to find a compiled list

of academic resources in Minnesota. Some resources on the list are private tutors while others

are schools designed specifically for students with learning disabilities. These will be great

resources to examine successful strategies and learning programs. These resources will be used

in the upcoming stages of research.

<u>Conclusion</u>

   This chapter is a thorough outline of the literature surrounding the topic of dyslexia. The research question, *What is being done for students with dyslexia in our schools?* was addressed by looking at the definition of dyslexia, how it is viewed in schools, teacher identification, teacher training and finally strategies that may help a student with dyslexia.

   The definition of dyslexia was examined by comparing and contrasting the various definitions that were uncovered in the literature review on dyslexia. Following the definition, a list of common misconceptions that society, including teachers have about this learning disability was compiled. There is a significant amount of brain research to support the definition. Next, chapter two addressed what dyslexia looks like in elementary schools. It covered the rights and accommodations for someone with dyslexia. The topic of stigma was examined as well as the common perceptions of dyslexia. Finally, the heart of the literature review examined how teachers have been trained to identify students who may have dyslexia.

   The action research plan will be outlined in Chapter 3. The leading research question of: *What is being done for students with dyslexia in our schools?* Using this question, a research plan will be strategically designed using the mixed method approach to further research this topic.

CHAPTER 3

Methods

A literature review of my question: "*What is being done for students with dyslexia in our schools?*" lead me to form an action research plan. The purpose of the action plan was to identify teacher understanding and strategic accommodations for dyslexia. This chapter will outline the research setting and subjects for my action plan. The rationale behind the plan, as well as the relevance to my question, will also be discussed. Research design methods and procedures will be included along with a description of the steps to complete the survey. Ethical considerations and decisions were also imperative to the creation of the action research plan.

Research Setting and Subjects

The participants in the survey were all from one particular school in various academic areas and grade levels. I worked with administration to gain permission to send the survey out to all teachers at the given school. The focus of the project and its purpose was outlined for all administrators to read along with a consent form. An email stating the potential benefits of the project was also sent. All respondents were school employees in various grade levels ranging from Pre-K through fifth grade. The goal was to receive 50 responses from the total of 87 employees, using a customizable on-line survey tool, SurveyMonkey.

For the qualitative portion of my action research plan, I conducted observations and interviews at a particular school specializing in teaching students with dyslexia and other learning disabilities. The accommodating school uses the Orton-Gillingham approach to teaching literacy with an emphasis on the Wilson Reading System. After gaining consent from the

administration, I conducted two days of observations and completed two interviews with cooperating teachers.

Rationale and Relevance

I have done a literature review on the various theories and studies that have been done on dyslexia to gain a better understanding of my topic. I have equipped myself with tools to be knowledgeable about my subject matter. Previous studies can provide the rationale for your research hypothesis, and indications of what needs to be done can help you justify the significance of your study (Mills, p47).

Creswell (p. 6 2009) describes that researchers are often persuaded by their own world views because the world views themselves are a "general orientation about the world and the nature of research." The pragmatic world view focuses on finding solutions for problems by using a variety of research. While the other three world views (postpositivism, constructivism and transformative) have important research criteria as well, none of them seem as "all encompassing" as the pragmatic world view. I see a benefit to using the mixed method approach (Creswell, p 19 2009). This is defined as a pragmatic worldview collection of both qualitative and quantitative data sequentially in the design. My research design needed to collect diverse types of data to ultimately achieve that problem/solution scenario.

The mixed method approach is ideal for my research action plan. It combines both qualitative and quantitative methods of gathering information. Creswell talks about both research strategies and how the mixed method approach could be utilized successfully.

I learned that the benefits of using the quantitative methods are that the information may be easier to attain, people tend to like numbers/statistical data, and it can be done over a wider population quickly. This is the survey portion of my research. The benefits of quantitative

research are that it has a more personal touch and looks at the bigger picture. I support and make correlations to the survey by doing observations in dyslexia specific classrooms.

Research Design and Procedures

After gaining approval from the Human Subjects Committee, I sent the survey out to test subjects. These subjects were teachers who are not currently working in a school but have the background and previous licensure to give an accurate test sample. After verifying that the test sample was an accurate portrayal for the information I intended to obtain, I deleted sample data.

The next step was to obtain consent from administrators. I sent the survey out to 87 recipients.   In conjunction with sending out surveys, I also set up observations and interviews at a school specializing in teaching students with dyslexia. Ideally, I wanted to observe two full days of instruction and interview two teachers.

Finally, I was able to put both aspects of my quantitative and qualitative data together to create a mixed method approach to my action research plan. The quantitative data gained by the survey analyzed what teachers currently know about dyslexia in our schools. The qualitative data gained by the observations gave me a better understanding of what strategies are currently being used in a classroom setting for students with dyslexia. This allowed me to find answers to my research question of *What is being done for students with dyslexia in our schools?*

Confidentiality was maintained in the survey because each participant was not asked for his or her identity. The two leading questions asked the participant for the current position at the school and the approximate grade level where the participant worked. In my observations, confidentiality was maintained because I did not use any names or identities of staff or students. When referring to the student in my post-observations, I took precautions to ensure the privacy and anonymity of any students in my observations by using general classroom examples. There

were not any audio/video recordings of students. I did not work one-on-one or with groups of students.

I gained consent from principals before surveying any staff. The survey was anonymous for all persons who were willing to participate. This survey was sent out for completion on a voluntary basis. Staff provided personal consent by the completion and submission of the survey. There were not physical, psychological, social, legal, economic or other risks to participants.   The potential benefits of the study are listed in the rationale section.

The Survey

The survey was sent out to several teachers through the consent of the administrator. A sample of the consent letter can be found in Appendix C. A request was sent along with that email for the teacher or principal to forward the survey on to staff. The goal was to receive 50 surveys through SurveyMonkey.

As described by Creswell (2009), SurveyMonkey is "an online survey tool where researchers can create their own surveys and receive the results as statistics that can be downloaded into a spreadsheet or database for further analysis," (p.149). The survey will be accessible to anyone who clicks on the link.

SurveyMonkey allows for features that enable data analysis by giving the ability to download the results into an Excel spreadsheet. The survey was also tested on a small group to ensure that it was working properly before I used it on the larger group. The test data was removed before I began the true survey. The test was done to confirm the validity of my questions and to provide the requisite data.

The data collected was a representation of the knowledge and beliefs of teachers at a single data point, representing a cross sectional data collection method. This survey was not given

repeatedly to capture teachers' progress in thinking, rather the purpose of this survey was to get a snapshot of how teachers view this topic "at one point in time," (Creswell, 2009). Table 1 explains the purpose and rationale behind each question in the survey.

Table 1- Questions and Rational for Survey

Survey Question	Type of Question	Rational for Question
1. What is your current position in the school?	Category type question • Office/Support Staff • Certified Teacher • Educational Assistant • Specialty Teacher • Therapy • Other (specify)	This question allows for data to be analyzed based on the participants current position at the school.
2. What grade level do you work with?	Ordinal type question • Pre-K • K-1 • 2-3 • 4-5 • Multiple Grade Levels	This question is designed to find central tendencies among grade levels. It is also used to identify if there is a trend to participant knowledge about the topic according to grade level.
3. Do you work in any of the following specialty areas?	Multiple Choice type question • Special Education • Specialist • Reading Support • Speech Language • None of the Above	The purpose of this question is to identify an area of additional training that a participant may have received.
4. How much training have you received on the topic of dyslexia?	Multiple Choice type question • 0-1 Hour • 2-4 Hours • 5-8 Hours • 9+ Hours	This question is was designed for analysis in correlation with questions 6 & 7 to identify any relationship between training and knowledge about the topic.
5. Have you ever referred a student for dyslexia diagnosis testing?	Dichotomous question • Yes • No • Unsure	The purpose of this question was designed as a yes/no question based on the research question. The analysis of this question will find any central tendencies between those who answer yes and the participants grade level and training hours.

6. What are signs and symptoms of dyslexia? Check all that apply	Discrete category multiple choice • Stuttering • Transposing numbers • Trouble with phonics • Read backwards • Lower Intelligence • Comprehension struggles • Twitching • Difficulty with left and right • Spelling issues	This question is asking for any information that participants know about the topic. This allows for data analysis based on misconceptions and central tendencies.
7. What are possible teaching strategies or accommodations for a student with dyslexia? Check all that apply.	Discrete category multiple choice • Allow more time on tests • Memorize spelling words • Multi-Sensory activities • Have student read aloud in class • Additional lessons in phonics • Audio accommodations for reading and writing • Wait for IEP and implement strategies	This question is asking for any information that participants know about the topic. This allows for data analysis based on what participants are doing in the schools to answer the research question.
8. Would you be interested in additional dyslexia training?	Dichotomous question • Yes • No • No Opinion	The purpose of this question is to identify a need for additional information about my topic.

Observation and Interview Tools

Consent was gained from administration to conduct two days of observations and interviews. The consent letter can be found in Appendix D. The graphic organizer and interview questions that were used for the quantitative portion of the research action plan can be found in Appendix A and B. These tools were used as guidelines during the observations and interviews, yet they were used to allow room for any other important information that came up during

information gathering. The interview sparked many new questions that could be asked and answered during the time with the cooperating teacher.

<u>Ethics</u>

I conducted my research action methods ethically by creating a non-biased research study. The main goal for my study was to find out if teachers are being trained in identifying dyslexia or implementing strategies to help with students who have dyslexia. My topic is something that affects 1 in 10 students in our schools and I am hoping that my research will uncover where the gaps are in educating our teachers.

Reliability is important because vocabulary and other terms can be subject to interpretation. It will be important for me to check with my mentor and peer reviewer to make sure that how I perceive a term or idea through my prior knowledge is consistent with what others perceive as well.

Finally, generalizability in my project means that the action research I am completing can be applied to my classroom and my students as well as other classrooms. My project is being done to create teacher awareness and give teachers applicable strategies for any classroom.

<u>Summary</u>

The methods for the research action plan described in this chapter were designed to answer my question: *What is being done for students with dyslexia in our schools?* The action plan is based on the pragmatic world view because it combined multiple sources of data and was based on specific resource limitations. The research plan was developed by using the mixed method approach of both qualitative and quantitative methods. I used the quantitative method to gather statistical data to help find a quantitative conclusion to my research question. A survey was given as a quantitative instrument to identify the dyslexia knowledge base of classroom

teachers. The qualitative data will provide big picture ideas and strategies to answer the second part of my research question. This was done in the form of observations in classrooms that were specifically designed to assist students with dyslexia. The results from the survey and observations will be found in the following chapter.

CHAPTER 4

Results

This chapter will discuss the results of the survey and the data analysis regarding teacher training and knowledge about dyslexia. The first portion of the section will describe the process of the survey and the amount of data collected. This chapter will then analyze and interpret how the results apply to the research question by defining trends and patterns that exist within the data. Next, the results of the observations and interviews will be discussed. This section will give specific examples of what teachers are doing to help students with dyslexia. Both of these sections will tie together with the ultimate purpose of answering the leading research question of: *What is being done for students with dyslexia in our schools?*

Quantitative Method: The Survey

The leading question and literature review were used in the formation of the questions for the survey. The types of questions and rationale can be found in Chapter 3: Method. It was important to keep referring back to the research question to ensure that I was only asking questions directly related to the action research plan. The literature review was purposeful prior to writing the survey because it gave me a better understanding of the complex components of dyslexia. During the process of writing the survey, I took into consideration my intended audience and the timing that the survey would be sent. The survey questions were reviewed by my advisory committee and I made changes according to their suggestions.

Prior to the survey being sent, administrative approval via email (informed consent) was gained. The survey was sent to a staff of 87 in a school with approximately 600 students. The survey was open for 10 days and in that time 52 responses were received. There were a few questions that staff did not complete so the results do not always add up to 100%.

This survey was intended to anonymously gather general information from a teaching staff in a reasonably short amount of time. This research can be analyzed quantitatively and can provide specific data. The survey was created using a free and customizable survey development tool, SurveyMonkey.com. This program allowed me to form questions in a precise manner that would permit me to receive only my intended information.

Once the survey was generated, I sent it out to four test subjects. The purpose of the test subjects was to ensure that the link worked properly, to check any spelling or grammatical errors and to answer questions and give feedback if something was missing or did not make sense. After receiving feedback from the four test subjects, I made changes accordingly. There was one question that I did not leave a specific space to say "none of the above" or "not applicable." It was important for the success of the survey for this change to be made. After the test was run on my survey, I made changes and erased the answers of the four test subjects. At this point, it was ready to be sent out in a mass email.

My goal was to send out the survey at a time when the staff would be most likely to take time to fill it out. After discussing this with my current teaching team, it was decided that a Tuesday afternoon just after school ended would be the best time. I sent the link to the survey along with a quick email introducing the survey. This proved to be a good time as I received over 50% of the responses on that first afternoon. Another 40% of responses were completed the next day. Over the following three days, I obtained the additional 10% of responses. During the time of the survey, I received several emails from colleagues requesting additional information about dyslexia. Some of the staff told me about how dyslexia has affected them or someone in their family. This is when my research question really came into focus, as I began to realize that teachers wanted to learn more about this topic.

Summarizing and Describing

I have used the qualitative responses from this survey to form several conclusions. In this section, I described and summarized the results of the survey. First, I analyzed the group responses as a whole by looking at how the group answered each question. I used a continuous approach that measured the central tendencies and distribution of the responses. I used various levels of measurements to gauge a variety of responses. This survey included the following types of questions: category type questions, ordinal questions, continuous questions and open ended questions. The summary will also include individual survey responses and draw conclusions based on data as position in the school, years of experience, training and knowledge about dyslexia. By analyzing the survey in both of these ways, I gained a better understanding of how teachers view dyslexia in the classroom.

Table 2- Results of Dyslexia Survey

Survey Question	Possible Responses	Response Count	Response Percentage
1. What is your current position in the school? (53 responses)	Office/Support	1	1.89%
	Certified Teacher	32	60.38%
	Edu. Assistant	5	9.43%
	Specialty Teacher	8	15.09%
	Therapy	1	1.89%
	Other	9	16.98%
2. What grade level do you work with? (49 responses)	Pre K	3	6.12%
	K-1	10	20.41%
	2-3	9	18.37%
	4-5	8	16.33%
	Multi Grade Levels	19	38.78%
3. Do you work in any of the following specialty areas? (46 responses)	Special Education	12	26.09%
	Specialist	4	8.70%
	Reading Support	3	6.52%
	Speech/Language	2	4.35%

	None of the Above	25	54.35%
4. How much training have you received on the topic of dyslexia? (50 responses)	0-1 Hour	30	60%
	2-4 Hours	11	22.00%
	5-8 Hours	6	12.00%
	9+ Hours	3	6.00%
5. Have you ever referred a student for dyslexia diagnosis testing? (48 responses)	Yes	12	25%
	No	35	72.92%
	Unsure	1	2.08%
6. What are signs and symptoms of dyslexia? Check all that apply (50 responses)	Stuttering	10	20.00%
	Transposing numbers	45	90.00%
	Trouble with phonics	37	74.00%
	Read words backwards	44	88.00%
	Lower intelligence	2	4.00%
	Comprehension Struggles	33	66.00%
	Twitching	2	4.00%
	Difficulty with Left and Right	38	76.00%
	Spelling Issues	44	88.00%
7. What are possible teaching strategies or accommodations for a student with dyslexia? Check all that apply. (47 responses)	Allow more time on tests	42	89.36%
	Memorize spelling words	6	12.77%
	Multi sensory activities	38	80.85%
	Have students read aloud in class	1	2.13%
	Additional lessons in phonics	27	57.45%
	Audio accommodations	44	93.62%
	Wait for Individual Education Plan	9	19.15%

8. Would you be interested in additional dyslexia training? (49 responses)	Yes	40	81.63%
	No	2	4.08%
	No Opinion	7	14.29%

Survey Analysis

With a total of 59.62% of the survey recipients being certified teachers, I was surprised to see 59.18% of the people surveyed had 0-1 hours of training on the topic of dyslexia. Of the 32 certified teachers who took the test, the average number of hours for dyslexia training is 2.21 hours. This average may even be higher than the actual training hours because I added the "0-1 hour" choice as .5 hours for the purpose of this calculation. The data showed me that teachers are not receiving enough training. Table 3 shows where the participant worked in the school and Table 4 is a graph to show how many hours of training the participant had in dyslexia.

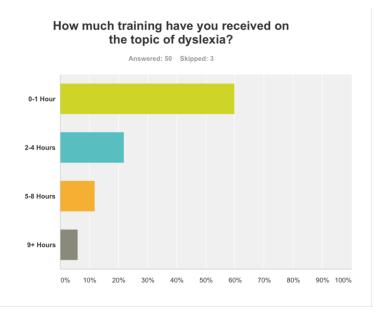Table 3. Current position in the school.

Table 4. Hours of Dyslexia Training

How much training have you received on
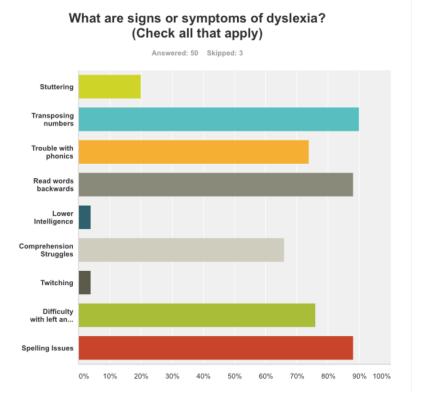the topic of dyslexia?

Answered: 50   Skipped: 3

I also totaled the average number of training hours for those working in special education or

reading support. The average training hours for this group of 15 people is 3.7 hours. This was a

more significant number than the certified teacher average, yet 6 of the 15 surveyed in this group

had 0-1 hours of training in dyslexia. These numbers explain why 81.63% of employees would

be interested in additional dyslexia training.

Only 25.52% of those who took the survey have referred a student for dyslexia testing.

Among those 11 people who answered "yes" to referring a student, there are 9 certified teachers,

1 support worker, 1 specialty teacher and the principal. A trend was that 6 of 9 certified teachers

taught grades 4 and 5. The average hours of dyslexia training for this group was 3.31 hours. The

spreadsheet for these results can be found in Appendix E.

Survey participants were also asked to identify the signs and symptoms of dyslexia. I noted

that 20.41% had the misconception that stuttering was related to dyslexia. In my literature

review, difficulty with fluency is among the signs and symptoms but not stuttering. One reason

several people may have chosen stuttering as a sign or symptom is because it was listed first

among the possible answers. I would be curious to know if the percentage would change if the placement of the answer choices would have been different. Table 5 graphs the results for the signs and symptoms in the order they were listed on the survey.
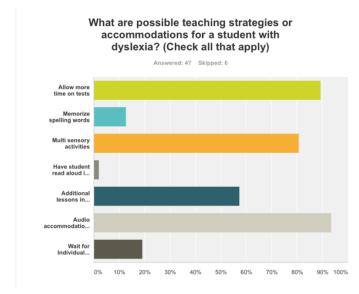
Table 5. Signs and Symptoms

There were six categories trending above 60% when participants were asked to identify the signs and symptoms of dyslexia. Transposing numbers, trouble with phonics, reading words backwards, comprehension struggles, difficulty with left/right and spelling issues were among the top chosen. Only 4.08% of participants thought lower intelligence and twitching were part of dyslexia. I looked into the individual break down for the 4.08% who chose lower intelligence and twitching. This group of three participants had a combined total average of 5+ hours of training. All three were certified teachers and two were part of special education. This data tells me teachers may need more continuous and accurate training.

Next, the survey asked participants to identify possible teaching strategies or accommodations for a student with dyslexia. Allowing more time on tests and providing audio accommodations for reading and writing were both over 90%. Providing students with multi-sensory activities also scored high with 80.43%. Scoring slightly lower at 58.70% was additional work with phonics. This lower score was interesting to me because the foundation of the reading program that I learned about during my observation was based on phonics. This is a big indicator that teachers need to be more educated in how important teaching the phonics based skills are for someone with dyslexia. Table 6 graphs the results of the accommodations or teaching strategies for a student with dyslexia.

Table 6. Strategies and Accommodations

Finally, 19.57% chose to wait for an Individual Education Plan (IEP). All participants from that group also selected multiple other strategies and accommodations in addition to waiting for an IEP. Teachers are trained to follow an IEP to meet the needs of the student. The interesting part to me in this question was the use of the word "wait." The survey was specifically designed

to identify how many teachers simply wait for an IEP to help students rather than implementing strategies or accommodations in advance.

Results Conclusion

The waiting game for IEP's and the fact that just over half of the teachers surveyed would implement additional phonics lessons brings me back to the research question of: *What is being done for students with dyslexia in our schools?* Dyslexia training is requested by over 80% of the participants surveyed. If 1 in every 10 students has dyslexia, are our teachers equipped to meet the needs of their students? This question led me into my observations and interviews with a clear sense of needing to find out what teachers should know in order to be successful with dyslexic students.

Qualitative data: Observations and Interviews

In this section I will explain the qualitative information gathered during the observation and interview portion of the action plan. The research question: *What is being done for students with dyslexia in our schools?* remains the purpose for gathering information during the observations and interviews. I observed one school in Minnesota that specializes in helping students with learning disabilities such as dyslexia and ADHD. Two days of observations were done at this school in two different classrooms. The setting for the first day of observation was a first and second grade multi-age classroom with six students. The second day of observation was in a third and fourth grade multi-age classroom with eight students. I was watching for specific teaching strategies and accommodations made for students. I also conducted two interviews with the cooperating teachers. After the recap of the interviews, there will be an informational section on the different programs and detailed strategies that the teachers used.

<u>The School</u>

I chose an institution that is the leading school for learning disabilities and attention

disorders, as well as a center for literacy instruction, education and advocacy in the state of

Minnesota. The school enrollment is 250 students for grades K-12. The school's mission is to

build confidence, success and purpose through transformative learning and experiences. The

vision is to redefine the way our nation is taught, one student, one teacher and one school at a

time. They provide small classes and a specialized staff to teach students the skills to learn

independently, engage in self-advocacy and develop social competence. I observed in the

youngest classroom on the first day. This included six kids at about a 1st/2nd grade level.

However, the classrooms at this school were based on ability as opposed to specific grade level.

On my second day of observations, I was placed in a classroom that was implementing the

curriculum at a level higher than the previous day. This allowed me to see the progression of the

literacy programs.

<u>Observations</u>

I was initially brought to a classroom with only six students. The only information given to

me prior to the observation was that these students were around a first/second grade level. After

being in classrooms with 25-31 students, this seemed extremely small. I was introduced to four

of the six students as the two others were with the speech specialist. The classroom was set up

with six desks, a computer table and a half-circle table for the small group instruction. The

decorations in the room were kept to a minimum and the only posters hanging on the walls were

specific strategies to help students with daily work.

One student was quietly working at the desk while the other three students were on

computers with headphones. I was immediately envious of the one-on-one attention the students

were receiving from their teacher. The kids working on the computer were in a program called Reading Ally. This computer program will be described later in this section. Students were engaged and on-task. Simultaneously, students were working at their desk doing DLR (Daily Language Review). Many schools use DLR, as it can be applied to a particular grade level curriculum and standards. The difference that I noticed in my observation was that the DLR worksheets were differentiated to meet the student at his or her level.

Next, the students took a short break. The schedule was designed to have very purposeful learning times and set times to take breaks. The structure is the same every single day and the students know and follow the expectations. During break time the students were allowed to eat a snack and play a card game such as Uno. This brain break was put into the schedule to help recharge and help the students get ready for the literacy lesson.

While the students had the break, I was able to ask the teacher about a term that I had heard her use with a student. The student was struggling to read a word and she told the student to "tap-it." This is a phonics tool used through the Wilson Reading Program. I heard the strategy to tap-it several times throughout my two days of observations. The skill of tapping a word was implemented into a literacy lesson from the Wilson Reading Program named Fundations.

FUNDATIONS

Fundations serves as a prevention program to help reduce reading and spelling failure. It is a multisensory and structured language program. The focus of this systematic program emphasizes phonemic awareness, phonics, word study, high frequency word study, reading fluency, vocabulary, comprehension strategies, handwriting and spelling. Fundations includes the Common Core State Standards however, it needs to be combined with a core/literature-based language arts program to put more focus into comprehension and spelling.

The time allocated for Fundations during my observation was a 45-minute block. The students gathered at the side of the half-circle table. The teacher instruction during this segment was very routine and structured for the students. A daily lesson plan is printed and used to track student progress. The students began by naming a letter, saying the sound and saying a word that starts with that letter. The students did this same activity with blends and welded words. These are the sounds they would put together when they would tap a word. Letter sounds would get one finger pressed to the thumb, blends (such as ch) would get two fingers pressed to the thumb and welds (such as ink) would get three fingers pressed to the thumb. After reviewing the letters, blends, welded words and suffixes, the teacher would put the letters on the board to form words. The students would use the tapping skill and their knowledge about letter sounds to figure out the words. I was interested in learning more about the frequent use of nonsense words in the lesson. The students were able to break the words apart and identify the digraph blends, which consonants need to be doubled, and how suffixes were used in both normal words and nonsense words.

During the lesson, students were asked to grab a white board that had a magnetic group of the same letters, blends, welded words and suffixes they used at the beginning of the lesson. The teacher would read a word to the students, they would repeat the word and then use the magnetic letters to spell it. The teacher would check for accuracy and keep notes accordingly to track student progress. When the student got the word correct, they would be instructed to "spell it away" or put the letters back into order and get ready for the next word.

Finally, the students were given a full sentence. They had to write the sentence by tapping words they did not know and marking the words to identify blends or welds. Next the students would have to "scoop" the sentence to mark where the expression and emphasis needed to be

made when reading the sentence.

Fundations is designed as word study lessons and reading/literacy lessons. The teacher that I observed alternated these lessons each day. On the day I observed, the teacher conducted a word study lesson. A copy of both lessons is included in Appendix F.

RAVE-O

The classroom I observed on the first day was the only one in the school using the literacy intervention program called, RAVE-O. This is a program that targets the early learners who are at the beginning of their reading journey. There was a 55-minute time block allotted for this work. The RAVE-O instruction uses core words and looks at how the sounds, word parts, meanings and connections can function in the text. The purpose behind this program is that when students know more about a word, they can read it and understand it more quickly. This program is appealing to students because it uses characters to describe the various strategies. A few of the RAVE-O posters I observed in the classroom were; sentence builder, question words, rhyme time, vowels, MIC, MIM, Jam Slam, S-car-Go, Ender Benders, Think Thrice and Double Trouble. Each strategy has a fun poster that explains the learning objective and gives examples of how that strategy is used. I was not able to see the RAVE-O lesson in progress because the students needed to go to library.

LIBRARY

The school had one main library for all classrooms at each of the K-12 levels. Because of the student/teacher ratio, the librarian played an important role in helping the students choose "on-level" books. The goal for students was to practice choosing books using strategies to check for fluency and understanding. After students had checked out books, they did quiet reading time while the classroom teacher did one-minute fluency checks. These checks are done weekly

to track the progress of the student. During this time, the librarian went around to various students to inquire about the books being read and to show an interest in what each student was reading.

Most fluency tests being done in a standard classroom are done at grade level. The fluency tests being done weekly at this school are catered to meet the students at their ability instead of the grade level. The teacher will give students a word if they are struggling and mark it wrong so the student can continue to read fluently. The teacher also asks that the student use his or her finger to track where they are on the page. A reading specialist comes in to test the grade-level fluency once per trimester. It was also during library on my second day of observations that I learned about the program Learning Ally.

LEARNING ALLY

This program's purpose is to provide students with print based reading disability access to follow along with audiobooks at his or her grade level. Learning Ally has a library of over 80,000 audio books. There are times when students' reading level is much lower than their chronological grade level. Learning Ally provides an opportunity for the students to follow along and understand grade level material. The program also allows for students to read books that are interesting to them, even if their reading level is not in alignment. It is around 2nd and 3rd grade that many students make the shift from "learning to read" to "reading to learn." This allows students who may not have a high reading level to read books they enjoy. This can open up new worlds for children who may not have had that same experience without this tool. Learning Ally affords the students an independent learning opportunity.

This is a very easy to use system where students can login to their own accounts using different forms of technology, such as a computer or tablet. Students can customize a book shelf

to include books they are interested in reading. Teachers and parents also have access to the student's account so they can help with this process if necessary. The teacher and parent access also allows for progress tracking.   Once a student downloads a book from the bookshelf, they can have access to it anywhere. There are various features that can also enhance student learning. The text highlights the words as the voice reads it, the speed of the narration can also be adjusted to the student's preference.

Learning Ally was originally designed for people who were blind. The audio books were a way for them to listen to the same literature that was being used in the classroom. After seeing the value in this tool, the company decided to add the print text as a tool for students with learning disabilities. This program is available to be used for ANY student with a learning disability. During my observation, all students had access to this program. I see this as a very valuable tool that could enhance the learning of a student in a standard classroom as well. This program helps enhance comprehension levels and give students a sense of confidence in their reading abilities.

<u>Second Observation – One Level Higher</u>

The classroom on the second day of observations was much larger with eight students. There were various student accommodations in this classroom such as ball chairs and dimmer lights. This room had more decoration, designated learning areas and learning strategies on the walls to help students with everyday learning. When I arrived, the teacher was working with four students at a side table. The other students were completing a variety of tasks, such as DLR (Daily Language Review), journaling and computer work. During the computer work portion, students used a program called Read Live to read stories quietly aloud to themselves. The purpose of Read Live is to increase fluency and comprehension.

READ LIVE

This technological based system is an intervention program designed to accelerate reading achievement. The use of visual and auditory prompts guides the students through a system that will develop fluency, phonics skills, support comprehension and improve vocabulary. Read Live tracks student progress and can be accessed anywhere with computers or tablets.

When using this program, the students would listen to the story being read by wearing headphones. Then the student would whisper the story twice before having the teacher listen for fluency. Normally reading out loud is very intimidating for a person with dyslexia, but because of the small group of students and the commonality among them, this seemed very normal for the students. Read Live was used while the teacher was working with small groups during a block of time called Wilson #1 and Wilson #2.

WILSON

The teacher to student ratio during this 45-minute block of time was 1:4. I observed many of the same practices from the previous day. I was able to see the progression of students from an introductory level of the Wilson Reading Program to the implementation level.

The Wilson Reading System is a structured literacy program that is based on phonological-coding research and Orton-Gillingham principles. Wilson systematically teaches the complex structure of the English language. Students learn fluent decoding and encoding skills and receive instruction in phonemic awareness, sight recognition, spelling, fluency, vocabulary, oral expressive language development and comprehension.

Students used word cards to practice letters, blends, welds and the strategy to tap the word. They played a game called "fastest finger" to identify words among a group of correct words and nonsense words. Vocabulary was continually woven in through each activity and close progress

was monitored to track student development. The skill of tapping was done less at this level and I noticed that students could do this in their heads as opposed to using their fingers.

After the completion of Wilson #1 the students were allowed take a quick snack break. I noticed the demeanor of the classroom remained the same. It continued to be calm and students kept to themselves. They ate snacks quietly and were ready to move on to the next block of Wilson #2. The students switched places so the four that had been at the table began independent work and the four students who were working independently began working with the teacher.

The second Wilson section started by reviewing homework and talking about the five vocabulary words that would be repeated throughout the lesson. At this level, the students were doing a lot of marking to the words. They would identify the blends, welds and the suffixes. They also did this on words they didn't know and nonsense words. Next, as a group they read through a story. The students were then asked to draw a picture of one of the lines from the story. This allowed the students to dig into a different skill set to exhibit their understanding of the text.

Another thing I noticed on the second day of observations that was different from the previous day was that the teacher didn't incorporate much redirection or discipline when teaching. The students were on task and respectful. It was a positive and organized learning environment. The homework board was even called "Home Enjoyment" to add a positive spin on the extra work outside of school.

Interviews

In this section, I will combine the information I received from both of the cooperating teachers. The first teacher I observed had six years of experience at that school. During those six years, the staff was trained several times in the various reading programs such as the Wilson

Reading System. All staff hired at this school have been trained and certified in the Orton-Gillingham approach to reading. The teachers are taught to use repetition and predictability in the classroom when scheduling, teaching and designing homework.

The second teacher I observed had been at the school for three years. This particular teacher had taught in several schools before finding the current position. In past teaching experiences, this teacher saw students "slip through the cracks" if they were not meeting specific criteria to qualify for special education assistance and accommodations. Sometimes the students do not meet specific numbers to get help until they are failing. Working for this school feels like a "golden job" and this teacher will do anything possible to stay. A specific quote stuck with me when the teacher said, "With eight kids in my class, how do I NOT succeed?" This just shows that with the right tools and support, this is an environment where students and teachers are noticeably seeing success.

Finally, both teachers told me stories of families who give up their time and finances to have their children attend the school. The parents noticed that their child was not receiving adequate support at their public school at the time. One family is making a one and half hour drive from Rochester and back home every single day because the student does not want to be anywhere else. This student felt safe and comfortable in the learning environment. Another family lives in Wisconsin and rents an apartment in the Twin Cities area so their child can attend the school. The teachers realize that most families do not have the ability to make these types of sacrifices or accommodations. The juxtapose of the matter lies in the fact that they see the progress in the students and they can validate that the programs are successful. This is where the research question of "*What is being done for students with dyslexia our schools?*" comes into play. Why

are families going so far out of their way to service students and why can't they receive sufficient support in their assigned public school?

<u>Conclusion</u>

This action research plan to answer the question *What is being done for students with dyslexia in our schools?* has left me asking more questions and a prompted a desire to seek more information on this topic. The contents of Chapter 4 contained survey results, observation notes and interview answers. Using a mixed method approach and analyzing both qualitative and quantitative information, I was able to identify a sample of what teachers know in a standard school. In this action research plan, I was also able to gain insight as to what schools are doing to succeed when teaching students with dyslexia. The next chapter will include any final conclusions of this research project. The conclusion chapter will also encompass my future professional and academic goals.

CHAPTER 5

Conclusion

The main objective of this capstone was to find the best possible answer to the research

question: *What is being done in our schools for students with dyslexia?* The answer to this

question was found by completing a detailed review of the relevant literature; designing the

research action plan; and conducting the surveys, observations and interviews. It has been

concluded that teachers need more dyslexia training and there are multiple strategies and

accommodations to impact the success of dyslexic students.

Highlights

This project has brought the topic of dyslexia in the open for conversations with colleagues,

friends and other educators. I had the ability to share my story as well as listen to others about

the struggle that they have gone through. It was a highlight for me to realize how my research is

significant and it can potentially impact the lives of others. Several teachers have already

contacted me about the possibility of training staff with the tools I gained through my research,

observations and interviews. Through this process I have also gained the skills to conduct a

research project if a question were to arise in my future profession.

Revisiting the Literature Review

Chapter two of the capstone discussed the important information that currently exists on the

topic of dyslexia. The literature review section introduced the definition of dyslexia and

common misconceptions. The next portion described the research to support the definition. The

brain research segment was particularly intriguing by explaining how each side of the brain

lights up when reading. It explained how a person with dyslexia may have different parts of the

brain light up than a person without dyslexia. I also found the integration of technological

advances particularly interesting. There are many more tools for students who need additional support, such as audio versions of text.

Finally, the literature review chapter analyzed the various methods and strategies to help a student with dyslexia succeed. Research based phonics programs, the use of multi-sensory strategies, audio accommodations and testing strategies were among the topics discussed in this section. The literature review concluded with a list of resources for parents and teachers of students with dyslexia.

Implications of the Study

Based on the exploration of the survey, data collection, analysis, observations and interviews involved in the research study several implications are apparent. First, the school used for the survey may not have been an accurate representation of other schools. This is a small sample taken from one school in Minnesota. Schools in other geographic and economic areas may have answered the questions differently. I inferred that teachers who receive less training on dyslexia would be less likely to identify signs and symptoms as well as accommodations and strategies.

Another possible implication of this study is school districts may not have the time or resources required to train and empower teachers with the tools needed to be successful with dyslexic students. The strategies witnessed during my observations were time consuming with a significant amount of teacher-student interaction. The programs used during the observations also required a significant amount of staff training. With the financial and time constraints most mainstream schools experience, they are unable to provide this type of training.

Finally, the combination of the survey and observations imply there is a definite gap between what teachers know and what they should know about dyslexia. When looking at the question: *What is being done for students with dyslexia in our schools?* it became clear to me

there are students in the large mainstream classrooms with 25-31 students slipping through the cracks and not receiving the support they require. After stepping into a classroom where students struggling are being taught life-long skills in reading and writing, I saw the benefits to help other students succeed. Students in a standard classroom DO receive support, especially if it is in the form of an IEP and teachers are aware of the signs and symptoms of dyslexia. Yet, is it enough? Could we do more?

Limitations of the Study

The unique aspect of dyslexia is that not one case is exactly the same as another. There is not a cookie-cutter method to meet the needs of every single learner with dyslexia. What works for one student may not work for another. Any accommodation or strategy suggestions could be subject to interpretation according to the student needs. I wanted to keep the survey concise and easy to complete. There are several more questions I would have liked to ask in my survey. I would have used more open-ended questions where teachers could write about specific strategies or examples from their classroom.

Another limitation common with many research projects is the sample size. The survey was only completed in one school and does not give a broad spectrum of teacher answers throughout Minnesota or the rest of the nation. The survey results would be much more accurate if the survey could have been sent to several schools around Minnesota. Originally, I planned to survey a broader audience. My goal was to gain feedback from several geographic and economic areas. The process of receiving consent and approval proved to be more time consuming than originally anticipated. I had to gain consent from administrators prior to applying for Human Subjects Committee approval. The HSC approval process took several

weeks. By the time everything was approved and ready to go, I decided it would be best to stick with one school for surveys and one school for observations and interviews.

Another potential limitation of the study involves the chance of any bias from the survey participants or myself. Many of the employees who took the survey know me personally and knew about my project. Although I do not believe this would have swayed any answers on the survey, there is still that possibility. I may also have a personal bias on the topic given my experience with dyslexia as well as my opinion about what should be done for students.

The final limitation centered on the fact that my observations consisted of only two classrooms, at one school. My findings would be more thorough if there would have been more days of observations at other schools. My results may have been different if they were not limited to one school but rather collected at multiple sites.   However, through proper research methodology and rigorous review, any potential bias that may impact the capstone outcome has hopefully been eliminated.

<u>Future Research</u>

This research paper has given me a greater perspective on the complexity of dyslexia. The limitations listed in the prior section can directly correlate to areas of future research. This area of study could be expanded into a greater sampling of survey participants. A diverse population of participants would enhance the results of the survey because the reader would get a more comprehensive view of what teachers know about dyslexia. In future research, a more complex survey could be written and participants could have expected it to take a longer length of time. A survey could be done with open-ended questions for participants to give more tailored responses.

One of the other limitations listed was how only one school was observed in the action research plan. Future research could include observing at multiple schools in a variety of

geographic and economic areas.   Every classroom does things differently and any additional hours of observation could only enhance future research.

Personal Growth and Learning Reflections

This capstone has enhanced my research and writing ability. I have personally grown in my profession by stretching and growing as an author. My understanding of dyslexia has deepened and I am more equipped to train others in this area. There were times when the research project got challenging. One example was the amount of reading needed to complete a project of this capacity. I persevered through the substantial literature review chapter even though I am a person who struggles with reading complex written text.

Another area of personal growth has been writing multiple drafts. I prefer to write something correctly the first time and not continually revise my work. This process has taught me to get all of my ideas into writing as a first step before organizing and revising.

Finally, this capstone has improved my professional development as a teacher. My ability to understand the literacy process and meet my students where they are at has significantly improved. I was able to help some of my students in new ways when I first began to learn more about dyslexia. There have been a multitude of "ah-ha" moments throughout this process. I have gained skills that will improve my personal and professional development.

Future Research Agenda

It is safe to say the development of this capstone has lit a fire in my passion to gain more knowledge on this topic. For every piece of information that I uncovered, I wanted to learn more and dig deeper. I have already researched the schedule for the next Orton-Gillingham and Wilson Reading trainings. This training would be used as a change agent to potentially train teachers on this topic. I will use this project as a building block for my professional development

in the area of dyslexia. My goal is to close the gap where students with dyslexia are falling

through the cracks.

<u>Hamline University School of Education Framework</u>

This is a reflection on the relationship of this capstone to the Hamline University School of

Education framework. As a student in the Masters in Teaching program, I have used this project

to promote equity in schools and society by acting as an agent of change in the classroom, school

and community. I will be using this project to inform educators about dyslexia through possible

teacher trainings. This capstone relates to the Hamline University School of Education

framework, falling within the area of building communities of teachers and learners. One

example of this is by raising dyslexia awareness in classrooms and using this information to help

students succeed. When students are successful they have a more positive self-worth and

ultimately become better life-long learners.

The nature of this capstone is in correlation with the "construct knowledge" section of the

Hamline University School of Education framework. The project itself encompassed the

definition of this section by using prior knowledge and the educational tool of a literature review

to create an educational piece of writing. This project pulls from various foundational,

theoretical and pedagogical perspectives. It required critical thinking and reflection skills to find

connections to theoretical knowledge and find innovative ways to implement change.

<u>Conclusion</u>

This chapter has included highlights and reflections of the capstone itself and the writing

process. A brief summary of the literature review was added along with implications and

limitations. Reflection is key in a project of this magnitude because being a constant reflective

practitioner is what ultimately improves professional development. As previously stated, this

capstone has lit a fire in my journey to help students with dyslexia. I now have a glimpse into

my research question *What is being done for students with dyslexia in our schools?* I have seen

cases of success and heard from teachers who desire more information. As a life-long learner,

my next best step is to find a way to close the gap and help teachers become more informed.

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APPENDIX A
Observation Graphic Organizer

Observation Location:_____Observation Date:_____

Classroom Setup	
Teacher Interaction	
Instruction Methods	
Additional Accommodations	

APPENDIX B

Interview Questions

1. What is your experience with teaching students who have dyslexia?

2. What are the most common characteristics that you see with dyslexic students?

3. What are some of the most successful strategies that you have found when working with students who have dyslexia?

4. Where do you receive the majority of your professional development?

5. Can you tell me about any particular cases with students that were particularly difficult or rewarding?

6. Do you think all teachers should be trained to identify and support students with dyslexia? If so, what type of training?

7. What are the most important things for teachers to learn about students with dyslexia?

APPENDIX C

CONSENT LETTER (Survey)

Month day, 2016

Dear _____,

I am a graduate student working on an advanced degree in education at Hamline University, St. Paul, Minnesota. As part of my graduate work, I plan to conduct research with certified teachers in our district from February - April, 2016. The purpose of this letter is to request your participation. This research is public scholarship the abstract and final product will be cataloged in Hamline's **Bush Library Digital Commons**, a searchable electronic repository and that it may be published or used in other ways.

The topic of my master's capstone (thesis) is teacher training about how to identify students with dyslexia and implementation accommodations to help students be successful. I plan to survey certified teachers about their perspectives and experiences with the dyslexia. The survey will take less than five minutes to complete. Teachers will complete and submit the survey anonymously. The only information obtained in the survey will be the school district and grade level. After completing the capstone, I will summarize the findings in a report to be distributed to school administrators.

There is no risk for those who chose to participate in the survey. All results will be confidential and anonymous. Pseudonyms for the district, schools, and participants will be used. The surveys can be conducted at a place and time that are convenient for each teacher. Participation in the survey is voluntary, and, at any time, you may decline to complete the survey.

I have received approval from the School of Education at Hamline University and from our district office to conduct this study. The capstone will be catalogued cataloged in Hamline's **Bush Library Digital Commons**, a searchable electronic repository. My results might be included in an article in a professional journal or a session at a professional conference. In all cases, your identity and participation in this study will be confidential.

If you agree to participate, keep this page. Fill out the duplicate agreement to participate on page two and return it to me by mail or copy the form in an email to me no later than _____. If you have any questions, please contact me.

Sincerely,

Brita Gibart
651-214-6996
britagibart@gmail.com

APPENDIX C (continued)

<p style="text-align:center">Informed Consent to Participate in Anonymous Survey</p>

Keep this full page for your records.

I have received the letter about your research study for which you will be sending an anonymous survey to certified teachers. I understand that completing this survey will be at no risk to my staff, that my identity will be protected, and that I may withdraw from the survey portion of the project at any time without negative consequences.

_____
Signature

_____
Date

APPENDIX D

CONSENT LETTER (Observations)

Month day, 2016

Dear _____,

I am a graduate student working on an advanced degree in education at Hamline University, St. Paul, Minnesota. As part of my graduate work, I plan to conduct research observations in various primary grade classrooms on _____. The purpose of this letter is to request your participation. This research is public scholarship the abstract and final product will be cataloged in Hamline's **Bush Library Digital Commons**, a searchable electronic repository and that it may be published or used in other ways.

The topic of my master's capstone (thesis) is teacher training about how to identify students with dyslexia and implementation accommodations to help students be successful. I plan to observe teaching style, classroom set up and student activities/accommodations in classrooms that have students with dyslexia. The observations will be done over a two-day period. There will not be any student or teacher interaction. I will not need the identities of any students or teachers. After completing the capstone, I will summarize the findings in a report to be distributed to school administrators.

There is little to no risk for those who chose to participate in the allowing me to observe. All results will be confidential and anonymous. Pseudonyms for the district, schools, and participants will be used. The observations can be conducted at a place and time that are convenient for each teacher. Participation in the observations is voluntary, and, at any time, you may decline to allow me to observe.

I have received approval from the School of Education at Hamline University and from our district office to conduct this study. The capstone will be catalogued cataloged in Hamline's **Bush Library Digital Commons**, a searchable electronic repository. My results might be included in an article in a professional journal or a session at a professional conference. In all cases, your identity and participation in this study will be confidential.

If you agree to participate, keep this page. Fill out the duplicate agreement to participate on page two and return it to me by mail or copy the form in an email to me no later than _____. If you have any questions, please contact me.

Sincerely,

Brita Gibart
651-214-6996
britagibart@gmail.com

Informed Consent to Participate in Anonymous Observations

Keep this full page for your records.

I have received the letter about your research study for which you will be anonymously observing various classrooms. I understand that allowing the observations will be at little to no risk to my staff, that my identity will be protected, and that I may withdraw from the observation portion of the project at any time without negative consequences.

_____
Signature

_____
Date

Informed Consent to Participate in Anonymous Observations

Return this page to Brita Gibart.

I have received the letter about your research study for which you will be anonymously observing various classrooms. I understand that allowing the observations will be at little to no risk to my staff, that my identity will be protected, and that I may withdraw from the observation portion of the project at any time without negative consequences.

_____

Signature

_____

Date

APPENDIX E

Survey Result Spreadsheet (Questions 1-5, 8)

	Position at the School	Grade Level	Specialty Area	Hours of Training in dyslexia	Have you Ever referred a student for dyslexia?	Additional Training Preferred
#02	Certified Teacher	Multi	None	0-1 Hours	No	Yes
#03	Certified Teacher	2-3	None	0-1 Hours	Unsure	Yes
#04	Certified Teacher	2-3	None	9+ Hours	No	No
#05	Certified Teacher	2-3	None	0-1 Hours	No	Yes
#06	Other Principal	Multi	Special Ed	0-1 Hours	Yes	Yes
#07	Certified Teacher	Multi	Special Ed	2-4 Hours	Yes	Yes
#09	Certified Teacher	4-5	None	2-4 Hours	Yes	Yes
#10	Specialty Teacher	Multi	Special Ed	0-1 Hours	No	Yes
#12	Ed Assistant	K-1	Special Ed	0-1 Hours	No	Yes
#13	Certified Teacher	4-5	None	0-1 Hours	Yes	Yes

#14	Certified Teacher	2-3	None	0-1 Hours	No	Yes
#15	Certified Teacher	4-5	None	5-8 Hours	Yes	Yes
#16	Certified Teacher	K-1	None	0-1 Hours	No	No Opinion
#17	Certified Teacher	2-3	None	0-1 Hours	No	Yes
#18	Certified Teacher	Pre K	Special Ed	0-1 Hours	No	No Answer
#19	Certified Teacher	2-3	None	2-4 Hours	No	Yes
#20	Certified Teacher	K-1	None	0-1 Hours	No	Yes
#21	Certified Teacher	K-1	None	0-1 Hours	No	Yes
#22	Certified Teacher	2-3	None	0-1 Hours	No	Yes
#23	Other Family Support Worker	Multi	Reading Support	2-4 Hours	Yes	Yes
#24	Certified Teacher	K-1	None	2-4 Hours	Yes	Yes
#25	Special Education	K-1	Special Ed	9+ Hours	No Answer	Yes
#26	Certified Teacher	Multi	Specialist	2-4 Hours	No	Yes

#27	Ed Assist	Multi	None	0-1 Hours	No	Yes
#28	Ed Assistant	Multi	Special Ed	0-1 Hours	No	Yes
#29	Certified Teacher	K-1	None	2-4 Hours	No	Yes
#30	Specialty Teacher	2-3	Speech	0-1 Hours	Yes	Yes
#31	Certified Teacher	Multi	Specialist	0-1 Hours	No	No Answer
#32	Certified Teacher	4-5	None	2-4 Hours	Yes	Yes
#33	Certified Teacher	Multi	None	0-1 Hours	No Answer	Yes
#34	Specialty Teacher	Multi	Specialist	5-8 Hours	No	Yes
#35	MRC Reading Corp	Multi	Reading Support	2-4 Hours	No	Yes
#36	Certified Teacher	4-5	None	0-1 Hours	No	Yes
#37	Certified Teacher	2-3	None	0-1 Hours	Yes	Yes
#38	Ed Assist	K-1	None	0-1 Hours	No	No Answer
#39	Certified Teacher	Pre K	Special Ed	0-1 Hours	No	No

#40	Specialty Teacher	Multi	Reading Support	0-1 Hours	No	Yes
#41	CT - Specialty Teacher Therapy	Multi	Speech Language	5-8 Hours	No	Yes
#42	Other/ Student Advocate	Multi	None	0-1 Hours	No	Yes
#43	Certified Teacher	4-5	None	5-8 Hours	Yes	Yes
#44	Office Staff	No Answer	None	0-1 Hours	No	No Answer
#45	Certified Teacher	K-1	None	0-1 Hours	No	Yes
#46	Certified Teacher	4-5	None	2-4 Hours	No	Yes
#47	CT - Specialty Teacher	Multi	Special Ed	2-4 Hours	No	Yes
#48	Certified Teacher	4-5	Special Ed	5-8 Hours	Yes	Yes
#49	Occupational Therapy	Multi	Special Ed	5-8 Hours	No	No Opinion
#50	Pre K	Pre K	None	0-1 Hours	No	Yes
#51	Specialty Teacher	Multi	Specialist	0-1 Hours	No	No Opinion

#52	Psychology	Multi	Special Ed	9+	No	Yes
#53	Certified Teacher	K-1	None	0-1 Hours	No	Yes

APPENDIX F Fundations Lesson Examples

WRS Lesson Plan

Wilson Reading System®

DATE	LESSON NUMBER	STUDENT NAME / GROUP
4/4/16	14	

SUBSTEP	LESSON FOCUS	CONCEPTS TO WEAVE
2.2 A	☐ INTRODUCTION	
WORD TYPE	☐ ACCURACY	"TROUBLE SPOTS"
☒ REAL ☒ NONSENSE	☒ FLUENCY	

BLOCK 1 · Word Study

1 SOUND CARDS QUICK DRILL
1:1 ⏱ 2-3 MINUTES   GROUP ⏱ 2-3 MINUTES

VOWELS	CONSONANTS	WELDED
a, e, i, o, u	all	am, an, all, -ng and -nk

ADD TO NOTEBOOK

2 TEACH & REVIEW CONCEPTS FOR READING
1:1 ⏱ 5 MINUTES   GROUP ⏱ 5 MINUTES

REVIEW CONCEPTS	REVIEW WORDS	CURRENT CONCEPTS	CURRENT WORDS	
-Welded sounds	gunk	-Closed syllable	pump	masp
-Suffix -s	wall	-Blends	clip	prab
	bells ➕		mint	quist
			slam	fliss
			twig	gleff

ADD TO NOTEBOOK

3 WORD CARDS
1:1 ⏱ 3-5 MINUTES   GROUP ⏱ 5-10 MINUTES

SUBSTEPS	ACTIVITY	VOCABULARY WORDS	ADD NEW TO NOTEBOOK ☐
1.1-2.2	Read and mark.	HIGH FREQUENCY / SIGHT WORDS	ADD NEW TO NOTEBOOK ☐
		Read fat stack	

4 WORDLIST READING
1:1 ⏱ 5 MINUTES   GROUP ⏱ 5-10 MINUTES

STUDENT READER	PRACTICE	CHARTING	ERRORS
☒ A ☐ B	PAGE 21, 29	PAGE	
☒ REAL ☒ NONSENSE	☒ TOP ☒ BOTTOM	☐ TOP ☐ BOTTOM	ACTIVITY (IF GROUP)

5 SENTENCE READING
1:1 ⏱ 5 MINUTES   GROUP ⏱ 5 MINUTES

STUDENT READER	ERRORS	NOTES
☒ A ☐ B		
PAGE 33 (6-10)		

WRS Lesson Plan

DATE	LESSON NUMBER	STUDENT NAME / GROUP
4/5/16	15	

SUBSTEP	LESSON FOCUS	CONCEPTS TO WEAVE
2.2 A	☐ INTRODUCTION	

WORD TYPE		"TROUBLE SPOTS"
☒ REAL ☒ NONSENSE	☐ ACCURACY ☒ FLUENCY	

BLOCK 1 - Word Study

1 SOUND CARDS QUICK DRILL
1:1 ⏱ 2-3 MINUTES   GROUP ⏱ 2-3 MINUTES

VOWELS	CONSONANTS	WELDED
a, e, i, o, u	all	am, an, all, –ng and –nk

ADD TO NOTEBOOK

2 TEACH & REVIEW CONCEPTS FOR READING
1:1 ⏱ 5 MINUTES   GROUP ⏱ 5 MINUTES

REVIEW CONCEPTS	REVIEW WORDS	CURRENT CONCEPTS	CURRENT WORDS	
-Welded sounds	puds	-Closed syllable	shrug	triz
-Suffix -s	tall	-Blends	trim	clug
	zang ➕		munch	trop
			rust	hest
			mend	plix

ADD TO NOTEBOOK

3 WORD CARDS
1:1 ⏱ 3-5 MINUTES   GROUP ⏱ 5-10 MINUTES

SUBSTEPS	ACTIVITY	VOCABULARY WORDS	ADD NEW TO NOTEBOOK ☐
		HIGH FREQUENCY / SIGHT WORDS	ADD NEW TO NOTEBOOK ☐

4 WORDLIST READING
1:1 ⏱ 5 MINUTES   GROUP ⏱ 5-10 MINUTES

STUDENT READER	PRACTICE	CHARTING	ERRORS
☐ A ☐ B	PAGE	PAGE	
☐ REAL ☐ NONSENSE	☐ TOP ☐ BOTTOM	☐ TOP ☐ BOTTOM	ACTIVITY (IF GROUP)

5 SENTENCE READING
1:1 ⏱ 5 MINUTES   GROUP ⏱ 5 MINUTES

STUDENT READER	ERRORS	NOTES
☐ A ☐ B		
PAGE		

| www.wilsonlanguage.com

BLOCK 2 · Spelling

6 QUICK DRILL IN REVERSE — L1 ① 1-2 MINUTES   GROUP ① 2-3 MINUTES

VOWELS	CONSONANTS	WELDED
a, e, i, o, u	/b/, /z/, /ch/, /k/	am, all, onk, ang

7 TEACH & REVIEW CONCEPTS FOR SPELLING — L1 ① 5 MINUTES   GROUP ① 5-10 MINUTES

REVIEW CONCEPTS	REVIEW WORDS	CURRENT CONCEPTS	CURRENT WORDS	HIGH FREQUENCY / SIGHT WORDS
-Baseword and suffix	rills	-Blends	priz	
-Bonus letter	winks		test	
-Welded sounds	hess		bloss	
			thisk	
			shusp	

ADD TO NOTEBOOK

8 WRITTEN WORK DICTATION (SOUNDS, WORDS, SENTENCES) — ① 15 MINUTES   GROUP ① 15-20 MINUTES

SOUNDS	REAL WORDS	NONSENSE WORDS	HIGH FREQUENCY / SIGHT WORDS
/z/	shrub	quelt	has
/e/	thanks	blass	of
/ong/	click	quall	
/all/	press	zent	
/ank/	flags	plix	

SENTENCES

Stan must dump the trash.

Ted will jump in the pond and swim.

Did Tom trip on that twig?

BLOCK 3 · Fluency / Comprehension

9 CONTROLLED TEXT PASSAGE READING — 1:1 ① 10-15 MINUTES   GROUP ① 10-15 MINUTES

BOOK	READER LEVEL	VOCABULARY
☒ STUDENT READER 2	☒ A ☐ B	
☐ STORIES FOR OLDER STUDENTS ___	PAGE(S)	
☐ TRAVELS WITH TED	42	NOTES
☐ WRS FLUENCY READER	"Beth's Fall"	

10 LISTENING COMPREHENSION / APPLIED SKILLS — 1:1 ① 15-30 MINUTES   GROUP ① 15-30 MINUTES

PASSAGE FOR LISTENING COMPREHENSION	VOCABULARY
DECODABLE TEXT PASSAGE FOR APPLIED SKILLS	NOTES