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DYSLEXIA: A STRUGGLING READER'S
JOURNEY TOWARDS LITERACY

A Thesis
Presented to the
Faculty of
California State University,
San Bernardino

In Partial Fulfillment
of the Requirements for the Degree
Master of Arts
in
Education:
Reading/Language Arts

by
Cynthia Jenina Spence
September 2008

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August 5, 2008
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ABSTRACT

In the United States, researchers estimate that five to nine percent of school-aged children struggle with dyslexia. However, because dyslexia is not visible to the human eye some people, including a number of educators, are of the opinion that dyslexia doesn't really exist. Other educators, who might agree that dyslexia is a valid diagnosis for a few individuals, express their concern that the medical term "dyslexia" has become a convenient classification for all children struggling to read and should therefore be considered suspect. On the other hand, numerous members of the scientific community believe neural signatures, found in laboratories around the world, confirm that dyslexia is a valid condition.

In view of the varying opinions regarding dyslexia, much has been written on this topic. The purpose of this research paper is to investigate how dyslexia is currently being defined and debated by both the academic and scientific communities. Additionally, this thesis analyzes how dyslexia is presently being dealt with in the classroom and how this disability is represented in children's literature.

Furthermore, this thesis follows the academic journey of an individual dyslexic student from kindergarten through ninth grade highlighting both his success and struggles. In closing, the project offers recommendations for classroom accommodations that can significantly improve a dyslexic student's ability to succeed academically.

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"Do I see a doctorate in your future?" Thank you for speaking this vision into life and thank you even more for helping the vision take form. Your kindness has touched the center of my human spirit.

My children, Garrett, Quintin, Roarke, Bowen, and Lara,

You are the joy of my life and my hope for the future.

My husband, Larry,

Thank you for being the firm foundation I can build my life upon.

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CHAPTER ONE

ONE LIBRARY TICKET TO THE WONDERFUL WORLD OF BOOKS

Introduction

I've traveled the world twice over,
Met the famous; saints and sinners,
Poets and artists, kings and queens,
Old stars and hopeful beginners,
I've been where no-one's been before,
Learned secrets from writers and cooks
All with one library ticket
To the wonderful world of books.

~ Anonymous ~

For the most part, individuals receive their "library ticket" to the wonderful world of books while attending elementary school. Some students are lucky enough to have earned their ticket while still in kindergarten; the majority of students possess it by first or second grade. Sadly, what seems to be an uncomplicated acquisition for most children, reading, becomes a stumbling block for others. This past June, Stephen finished his ninth-grade school year and unfortunately, he is still struggling to acquire his ticket to reading. Stephen has worked very hard to enter "the wonderful world of books" spending countless hours drilling A, B, C's and sound charts while other children were outside at play. Furthermore, Stephen hasn't

been alone in this process; dedicated teachers have helped him during recess and after school. Reading tutors have worked with him on weekends and his parents have purchased numerous phonics programs, Leap Pads, and reading books. Why would such a bright and willing child, who has had the benefit of adult instruction, still be struggling to read in the ninth grade? The answer may possibly be dyslexia.

What is Dyslexia?

The term "dyslexia" was first used in 1887 by Rudolf Berlin. Berlin used the term to refer to a young boy who had a significant problem with reading and writing, though he showed intelligence and physical ability in all other areas. The word "dyslexia" itself comes from the Greek words $\delta\upsilon\varsigma$ - dys- meaning "impaired" and $\lambda\acute{\epsilon}\xi\iota\varsigma$ lexis meaning "word." Today, a person is said to be dyslexic if their reading or writing problems cannot be explained by a lack of intellectual ability, inadequate instruction, or sensory problems such as poor eyesight.

In the 1970's a new hypothesis emerged that asserted dyslexia stems from a deficit in phonological processing or difficulty in recognizing that spoken words are formed by discrete phonemes. Brain scan studies have revealed that

neural pathways of dyslexic readers are in fact different than those of other readers. Other research focuses on the theory that dyslexia results from a magnocellular deficit related to visual processing (Singleton, 2007), or that it is related to a cerebellar deficit (Shaywitz, 2007). Most recently, researchers have suggested that dyslexics have a problem filtering irrelevant data. This theory relies on studies that show performance levels of dyslexic subjects deteriorating considerably with distraction or in noise filled settings (Watson, 2007).

In the United States, researchers estimate that five to fifteen percent of school-aged children struggle with dyslexia (Walsh, 2007). Most of these learning disabilities are discovered between the ages of eleven and seventeen. Unfortunately, late detection also means late intervention. If the diagnosis of dyslexia had been made earlier, when these children were in kindergarten or first grade, reading strategies could have been implemented which may have helped facilitate their brains ability to create new reading pathways, thus eliminating some of dyslexia's negative effects. Nevertheless, there are still learning approaches that can help older children struggling with dyslexia, achieve literacy.

Teaching Strategies for Dyslexics

The most common strategy to help individuals cope with dyslexia is through educational tutoring based on the Orton-Gillingham method, which provides systematic, multi-sensory teaching geared to building phonetic decoding skills (Camp, 2007). Remedial efforts include breaking words into their basic sounds and rearranging these sounds to produce different words.

Another strategy to help dyslexic students is reading with colored plastic overlays. This tactic is based on a theory from the 1970s called Meares-Irlen-Syndrome. This theory believes that the glare of white paper against black letters causes words to shake, shiver, spin, or simply vanish. Colored plastic overlays are thought to help stabilize the words for dyslexic students. Chris Singleton and Lisa-Marie Henderson (2007) report that a recent study, conducted by the University of Hull in the UK, confirms that dyslexic children who use colored overlays when reading text display significantly higher reading rates. The study also found that dyslexic students, who were monitored using a computerized visual stress screener, were more likely to display significantly higher levels of visual stress than students who were not dyslexic.

A positive attitude is also important when working with a struggling reader. Carol A. Lyons (2003) states that "emotion plays a critical role in the learning process. The stronger the emotion connected with an experience, the stronger that memory of the experience" (p.95). Therefore, it is Lyon's position that students retain more information from a positive learning experience and mentally withdraw if the educational environment is threatening or unwelcoming.

Lyons (2003) also disagrees that the human brain is wired for life at a young age. Lyons points out that if the injured brain of stroke victims can find new pathways for speech and reading, the intact brains of students can do the same. One way to help create these pathways is through repetition. Marie M. Clay (2002) states that "The highest achievements come about in part because once a certain command of reading is attained one's reading improves every time one reads" (P.24). Joan Wink (2005) makes a similar statement when she talks about struggling readers needing to find "home run" books. A "home run" book is simply a collection of words that the reader is personally motivated to read repeatedly. Wink uses a young boy named Wyatt as an example. Wyatt began to overcome his reading difficulties

when he discovered Pokemon and Captain Underpants and began to read them over-and-over again because he wanted to.

Another example of a successful "home run" book experience (Wink, 2005) involves a college student who overcame her dyslexia in a similar fashion. As an adult, she was given a paperback book written by Danielle Steel titled *Summer's End*. At the time, because of her problems with dyslexia, this student had never read a book from beginning-to-end. The first time she read *Summer's End* it took her over a year. However, when she read the same book a second time it became easier and by the third reading of *Summer's End* her dyslexia issues were beginning to decrease. Last spring, this student graduated with her Masters Degree in English. Today, Danielle Steele's book *Summer's End*, tattered and worn from use, sits on her bookshelf as a testimony to her victory over dyslexia.

Another teaching strategy that is proving productive for dyslexic students is peer-to-peer tutoring. Debra Viadero (2007) reports that older siblings who tutor their younger brothers and sisters tend "to experience more growth in verbal intelligence during their teenage years than those who tutored less often" (p.3). Viadero also states that peer-to-peer tutoring tends to work best when

older students are paired with younger students and that "the tutor and the tutee learn better when they teach each other than they do in regular teacher led classrooms" (p.2). With this in mind, teachers are looking for opportunities to have students at various grade levels interact academically. A few suggestions for cross-grade connections are bringing students together from different grade levels for science projects, poetry anthologies, or history assignments such as making mission models or historical time-lines.

Although dyslexic students often receive tutoring they are not often called upon to tutor other students. However, by not including dyslexics in the peer-to-peer exchange some educators believe these students are missing out on a positive and productive learning experience. Amanda Snelling (2007) discusses this issue in her article "Gifted Children with Learning Disabilities Need Focused Tutoring." Snelling states that many children with learning disabilities are also intellectually gifted. Unfortunately, their high intelligence level frequently goes unrecognized, or is simply disregarded, in view of the fact that their "learning disabled" status directs and limits their academic opportunities. Snelling suggests these learning

disabled students would be better served if they were placed in learning environments that offered a variety of stimulating academic challenges which may include allowing them to participate in the peer-to-peer tutoring process. By looking for opportunities to include and integrate dyslexic students in educational exchanges teachers can bring their positive abilities to the forefront instead of narrowly focusing on their learning disabled status.

The Limits of Phonics

Frank Smith (1997), Constance Weaver (2002), and William H. Teale (1995), share their experiences and opinions regarding the importance of finding meaning in text. All three authors address their concerns regarding the narrow focus of phonics and give numerous examples on how focusing on the larger reading "picture" can benefit young students. Smith (1997) declares that "Worrying about letters will make word identification difficult; trying to read nonsense will make reading impossible" (p.69). Smith goes on to explain that readers "bring" their own meaning to text rather than the reader receiving "meaning from it" (p.79).

This concept is also taken up by Weaver (2002). Weaver discusses "schemas" which she defines as "an organized chunk of knowledge or experience, often accompanied by feelings" (p.17). Through several examples, Weaver demonstrates that a single text can hold several different meanings, or possibly no meaning at all, depending on the reader's experience. Therefore, being able to recognize the letters, their sounds, and the words they create, is irrelevant if the meaning is lost.

Teale (1995) addresses the concerns of elementary school teachers who feel that phonics is too rigid a program for Pre-Kindergarten through first-grade students. Teale states that these instructors believe that "Beginning Reading instruction should be more interesting, enjoyable, and meaningful" (p.119). Unfortunately, due to their repetitive and often unimaginative construction, phonic based lessons are often unsuccessful in stimulating the imagination or interest of beginning readers.

The significance of a student's knowledge and experience are also discussed in Teale's (1995) article. Teale explains, that Black children, whose education focused on phonics, were reading at a lower level than the white children receiving the same instruction. One line of

reasoning for this discrepancy is that the Black children bring their own knowledge and experience to a text and therefore bring different "meanings" to words and phrases. Unfortunately, because their reading instruction focuses more on phonics, which pays little attention to a student's schemata, these students are not being exposed to a variety of themes, concepts, or new information.

Frank Smith (1997), Constance Weaver (2002), Donald H. Graves (1994), and Gay Su Pinnell (2006), also share their experiences and opinions regarding positive and negative teaching approaches. Smith (1997) feels strongly that children do not become readers by reading material that doesn't make sense to them. Smith believes that it is natural for children to want to read for meaning and that "nonsense" text disturbs this process. In fact, Smith also believes that too much time can be spent teaching young readers the alphabet since letters that do not form words are meaningless. To support his theory, Smith asserts "for centuries people have learned to read without knowing a thing about letters, and millions still do" (p.35). Smith is also of the opinion that children are learning to read in spite of the phonics curriculum and techniques being employed in the classroom.

Smith is not alone in his dislike of phonics based curriculum. Weaver (2002) feels that faulty research practices has given phonics too much credit for helping students learn to read. Weaver is of the opinion, that phonics should be a small component of a balanced program that utilizes many proven techniques. Weaver, much like Smith, believes that students need to connect words with meaning and substantiates her theory by offering an example of a student who struggled when reading a decodable text but excelled when reading a passage with meaning.

Graves (1994) and Pinnell (2006) focus on teacher/student interactions. Graves carefully observes the students he teaches and creates charts with personal data in order to form an opinion about what his students already know and what they need to know. Graves believes so strongly in the teacher/student connection that he affirms that all a student needs to become a successful writer is one good teacher. Pinnell (2006) also believes in the power of the teacher and promotes that schools would be better off investing in their staff rather than buying the latest form of curriculum or updating their computers. In fact, Pinnell encourages teachers to "test" the latest materials against their own teaching experience instead of "blindly"

following whatever the current trend may be. Pinnell also emphasizes collaboration between teachers which helps to build a supportive environment and encourages educators to share knowledge and resources.

Ultimately, academic programs that focus entirely on phonics can limit a student's reading experience. Seeing letters is not the same thing as seeing words and seeing words is not the same thing as seeing meaning. In order for students to understand the words they read, they need to know what the words connect to. Therefore, the limited amount of time teachers have to spend on reading could be better served focusing on meaning rather than letters. Also, the human brain has a limited amount of short-term memory. Consequently, teachers can choose to fill the space in students' brains with letters or they can choose to fill that space with meaning. Meaning offers a great deal more. Additionally, by stepping outside the phonics only educational approach, teachers are free to take into account a student's individual learning style when selecting teaching methods. By incorporating a variety of teaching strategies, educators are able to meet a variety of academic needs.

Learning Styles and the Dyslexic Student

Learning is a very personal process. Therefore, it is imperative that teachers come to know their student's individual learning style so that they are able to incorporate or modify teaching strategies to meet the diverse needs of all their students. According to Forrest W. Parkay (2006), learning theorists generally acknowledge "that there are two families of learning theories - *behavioral* and *cognitive* - and that many subgroups exist within these two families" (p. 165) by understanding the distinguishing features of each theory, different instructional strategies can be integrated to meet a variety of needs.

One major construct of behavioral learning theory is reward response. The key to this approach is finding a reward system that is important to the student. Rewards might consist of verbal praise from the instructor, extra credit, stickers, prizes, etc. Essentially, the basis of this behavioral theory is that a positive reward from the teacher will provoke a positive learning response from the student. This theory is based on observable student behavior.

In contrast, cognitive learning theories focus on the mental process students use to acquire and apply new information which is unobservable. Parkay (2006) defines cognitive learning as theories that "emphasize personal meaning, generalizations, principles, advance organizers, discovery learning, coding and superordinate categories" (p.167) because these type of processes can't be seen, the students progress is usually determined by testing or other assessment methods. Cognitive science endeavors to determine how individual students think and learn. Parkay (2006) offers the following examples of varying learning styles:

Student's preferred learning styles are determined by a combination of hereditary and environmental factors. Some learners rapidly acquire new knowledge that they encounter; others learn best when they are independent and can shape their own learning. Some learn best in formal academic settings, while others learn best in informal, relaxed settings. Some learners require almost total silence, while others learn well in noisy, busy environments. Some learn

intuitively, while others learn best in a step-by-step, linear, concrete fashion. (p.169-170)

While dyslexic students follow many of the learning styles identified by Parkay, they also tend to exhibit learning patterns directly related to their disability. Since reading is a difficult visual exercise for dyslexics, their brain responds by increasing its memory for auditory information. Dyslexic students rely on "hearing" information much more than "seeing" information. Therefore, a teacher wanting to accommodate this learning mode, will want to consider speaking the words they write on a white board, or reading a text aloud, or possibly providing the lecture or text information in audio form. In addition to benefiting from academic information received aurally, dyslexic students tend to prefer offering answers orally. It is often very difficult for a dyslexic student to convey their thoughts and academic knowledge in written form. Consequently, a quiet classroom is usually an unproductive learning experience for dyslexic students.

Ann Ketch (2005) also promotes a verbally active learning environment. Ketch believes that "conversation is our connection to comprehension" (p.9) and that a quiet classroom offers little opportunity for students "to

practice thinking strategies or show evidence of their level of cognitive development" (p.8). Ketch bases her theory that "classrooms should be places where students think out loud and are asked by the teacher to share why and how they came to their beliefs" (p.10) on Vygotsky's (1978) hypothesis that learning is a social activity.

Kathie F. Nunley (2003) also promotes a verbal classroom approach to teaching. Nunley believes teachers should step away from traditional written assignments and tests in favor of oral exams which she describes as "oral defense" (p.29) exercises. It is Nunley's position that allowing students to provide their answers verbally "frees students from many of the obstacles that hold them back in school" (p.29). To substantiate her position, Nunley offers an example of a student who was able to answer every test question correctly when quizzed orally but still received a failing grade on the assignment because he was unable to provide the same answers in written form. Although Nunley doesn't specifically state that the student involved in her study was dyslexic, this scenario could easily describe a typical school day for many dyslexic students. Written tests are often a frustrating and limiting form of assessment for dyslexic individuals, for this reason,

offering an oral defense option would be a more inclusive teaching and assessment strategy.

Summary

Many students, who struggle with dyslexia, can and do achieve literacy. However, If they are diagnosed at the beginning of their education (kindergarten or first grade), teaching strategies can be implemented that may help their brain make new pathways for reading sooner rather than later. Ardith Davis Cole (2004) offers many "scaffolding techniques" that will help struggling readers. Ultimately, she suggests that it all "boils down to one child, one teacher, one book: the optimal reading relationship for a novice" (p.12). Focusing on the positive attributes and specific learning styles of dyslexic students is also an important element to their success. By providing academic information aurally and allowing students to provide answers orally, dyslexic students can actively participate in the learning process. In addition to implementing successful cognitive approaches, reward response strategies should also be implemented in order to support a positive learning environment for the dyslexic student. Hopefully, most struggling readers will overcome their dyslexia in

elementary school. However, even adults can learn to read proficiently. While Stephen is still earning his library ticket "to the wonderful world of books" his entrance into literacy is achievable. Possibly, it is only one "home run" book away.

CHAPTER TWO

REVIEW OF THE LITERATURE

Introduction

One of the most frightening things you can ask a dyslexic child to do is read in front of other people. Unfortunately, adults often make the assumption that a normal looking child, above the age of eight, can read. Therefore, when the class instructor, scout master, or Sunday school teacher, looks around the room in order to select a child to read aloud they are bringing to life a dyslexic child's nightmare.

The monster the dyslexic child fears is embarrassment. Imagine yourself as this child. You know you are smart; you can communicate with your classmates perfectly well verbally and yet when you try to read the words on a whiteboard or piece of paper you stutter and stammer and stare blankly at a jumble of letters that refuse to form a language your brain can recognize. The other children around you begin to laugh and your face turns red with shame. Hopefully, the adult in charge will rescue you and make some sort of transition. Nevertheless, the damage has

been done. You have lost the respect of your peers and most likely you will become the object of their ridicule.

The reason for this ridicule is ignorance. Children, and occasionally adults, make the false assumption that not being able to read confirms a lack of intelligence.

Unfortunately, many individuals who are unfamiliar with dyslexia do not even consider the possibility of a physical disability because the problem is not physically evident. In fact, because dyslexia is not visible to the human eye some people, including a number of educators, are of the opinion that dyslexia does not really exist. Other educators, who might agree that dyslexia is a valid diagnosis for a few individuals, express their concern that the medical term "dyslexia" has become a convenient classification for all children struggling to read and should therefore be considered suspect. Due to the varying opinions regarding dyslexia, much has been written on the topic. This literature review examines how dyslexia is defined, debated, and dealt with in the classroom. Additionally, this review analyzes how dyslexia as a disability is represented in children's literature.

Dyslexia Defined

The National Institute of Neurological Disorders and Stroke (NINDS) defines dyslexia as "a brain-based type of learning disability that specifically impairs a person's ability to read. These individuals typically read at levels significantly lower than expected despite having normal intelligence" (What is Dyslexia, Para. 1). NINDS suggests that teaching methods should be adapted to help dyslexic students and the organization itself strives to increase the public's understanding of the biology behind learning disabilities such as dyslexia.

Sally E. Shaywitz (2007), Professor of Learning Development at the Yale University School of Medicine, along with Bennett A. Shaywitz, a professor of pediatrics and neurology, discuss dyslexia in their article "The Neurobiology of Reading and Dyslexia." Shaywitz defines dyslexia as an "unexpected" reading difficulty found in children and adults who have had adequate instruction, are of normal intelligence, and are motivated to learn, yet still have not achieved reading fluency. Shaywitz puts forward that acquiring speech is a natural process while learning how to read is an acquired skill. To support their

theory, various neurobiology findings are introduced which support the premise that most readers learn to read phonologically while dyslexic readers rely on memorization. Shaywitz affirms that the neural signatures found in laboratories around the world provide "irrefutable evidence that dyslexia is real" (p.21) and therefore dyslexia should be viewed as a true reading disorder. In an interview on "News Hour" with Jim Lehrer, Shaywitz (1998) explains that functional magnetic resonance imaging (MRI) is now able to map reading brain activity. When mapping the brains of good readers, the MRI scans show activity in both the back and front areas of the brain. In contrast, Scaywitz reports the MRI brain scans of dyslexic readers displays an "under activation in the back of the brain and we see a pattern of over activation in the front of the brain" (p.2) this neural signature can now confirm a dyslexia diagnosis.

Patrick Tucker (2006) focuses on a MRI study that marked the brain differences seen in dyslexic students compared to "normal" readers. The scientists in this study discovered that the brain of dyslexic subjects, "specifically the portion of the brain associated with hearing and processing sound was influencing the dyslexia" (p.14) Tucker's study confirmed that the brain of dyslexic

readers reacted differently to reading than the brain of children without dyslexia. Equipped with this information, the lesson plans for the students involved in the study were altered to supply more visceral material. At the end of eight weeks a significant improvement on reading tests was noted.

MedicineNet Inc., lists dyslexia as "an impairment in the brain's ability to translate images received from the eyes or ears into understandable language" (What is Dyslexia, para.1). Once again, this medical authority affirms that dyslexia is not a form of mental retardation, brain damage, or a lack of intelligence, but a dysfunction of the brain's usual reading patterns. MedicineNet also cautions that dyslexic children can become "unmotivated and develop a dislike for school" (What is Dyslexia, para.1). Although dyslexia seems to run in families, MedicineNet reports that males seem more predisposed (What Causes Dyslexia, para.2).

A recent research project, conducted by the University of Hong Kong, also suggests dyslexia may be an inherited condition (Siok et al., 2008). Randolph E. Schmid (2008), responding to the discoveries of the research project, reports that millions of children worldwide are affected by

dyslexia. Schmid defines dyslexia as "a language-based learning disability that can include problems in reading, spelling, writing, and pronouncing words" (p.1). However, the brain patterns of Chinese children with dyslexia vary from the brain patterns of English children with dyslexia. Schmid suggests one possible explanation for this variance is the dissimilarity between the two languages. Chinese children learn to read by memorizing hundreds of symbols which represent words. In contrast, English children learn to read by memorizing the sounds of alphabet letters which must be combined to form words. In an interview with Schmid, Li-Hai Tan, the professor involved with the research stated:

Previous genetic studies suggest that malformations of brain development are associated with mutations of several genes and that developmental dyslexia has a genetic basis... We speculate that different genes may be involved in dyslexia in Chinese and English readers. In this respect, our brain-mapping findings can assist in the search for candidate genes that cause dyslexia. (as cited in Schmid, 2008, p.2)

Tan's research group used functional magnetic resonance imaging to "map" the brains of Chinese and English dyslexic test subjects. The researchers noted the brains of English speakers appeared to have unusual function in the "left temporo-parietal areas, thought to be involved in letter-to-sound conversions in reading; left middle-superior temporal cortex, thought to be involved in speech sound analysis and the left inferior temporo-occipital gyrus, which may function as a quick word-form recognition system" (p.2). Similar brain imaging on dyslexic Chinese children only found disruption in the left middle frontal gyrus region. Knowing the areas of the brain affected by dyslexia can aid researchers in establishing effective intervention strategies. This is particularly relevant if the instructor is working in a multi-cultural learning environment.

Dyslexia Debated

Disbelievers

There are members in the teaching community who challenge the concept of dyslexia. For instance, Frank Smith (1997) believes that dyslexia is a myth. Smith proposes that all children, with the exception of blind or hearing impaired individuals, learn both visually and

verbally. Therefore, Smith rejects the notion that some children learn differently and he puts forward that the cure for dyslexia is simply teaching a child how to read. Smith believes teachers and parents hide behind the label of dyslexia and that any child who can accomplish speech can learn to read.

Similarly, Carol A. Lyons (2003) states Reading Recovery ® teachers believe hard-to-teach students have "a difficulty rather than a deficit . . . and a difference rather than a disability" (p.94). Lyons also disagrees that the human brain is wired for life at a young age. Lyons points out that if the injured brain of stroke victims can find new pathways for speech and reading, the intact brains of students can do the same.

Constance Weaver (2002) also worries about labeling readers. In fact, she believes buzzwords such as "struggling reader," "dyslexic," "lower ability," "poor reader," or "learning disabled," negatively impact the educational process. Weaver's position is once teachers and students hear these labels they alter their teaching and learning methods adversely. Weaver goes on to quote an article written by Rosalie Fink (1995) suggesting

dyslectics learn to read by reading. This is the same position taken up by Smith (1997).

"Urban Legend," is the term Deborah Camp (2007) uses to describe dyslexia. Camp considers dyslexia to be a condition that comes and goes along with the latest curriculum craze. In Camp's opinion, it is easier for our current federally mandated educational system to believe that students have "unspecified perceptual problems stemming from faulty brains" than to acknowledge that we are teaching them "reading using prescriptive, rigidly sequenced, and frankly, quite boring, reading programs such as Merrill Linguistic Readers" (p.4). Camp also dismisses current theories involving brain scans. Camp believes brain research is still in its infancy and scientists do not know enough about the human brain to make such claims and therefore this form of diagnosis is unreliable. Finally, Camp's position on reading and dyslexia is "caring educators teach children to read, not lock-step commercialized programs" (p.9).

Julian Elliott (2005) puts forth that "dyslexia persists as a construct largely because it serves an emotional, not a scientific, function" (p.1). Elliott assumes parents do not want to believe their child isn't

smart enough to learn how to read and therefore they embrace the diagnosis of dyslexia. In Elliott's opinion, parents would rather believe their child has a physical disability than a below average intellect. Elliott bases his theory on three decades of experience as an educator, "first as a teacher of children with learning difficulties, then as an educational psychologist and, latterly, as an academic who has reviewed the dyslexia literature" (p.1).

Believers

J. Richard Gentry (2006) discusses positron emission tomography (PET) currently being used to study brain patterns during cognitive processes. PET imagery reveals reading areas of the brain that seem to operate differently in some individuals. These individuals are identified as being dyslexic, a term Gentry defines as "any neurologically based specific reading disability" (p.11). Gentry goes on to state the area of difference seems to be directly associated with spelling. This theory might explain why dyslexia seems to be more prevalent among English readers due to the fact English has 1,120 spelling combinations which need to be memorized.

Louise Long, Sean MacBlain, and Martin MacBlain (2007), report England and Wales recognized dyslexia as a

legitimate disability in 2003. Consequently, England enacted the Special Educational Needs and Disability Act which requires schools to meet the educational needs of dyslexic students. In 2005, Northern Ireland adopted the same stance regarding dyslexia. These programs are similar to the 2004 United States federal "Individuals with Disabilities Education Act (IDEA)" which requires public schools, receiving government funding, to provide special education and other related services to children with disabilities. Dyslexia is recognized as a disability covered by IDEA.

Thomas G. West (1997), labels dyslexia the "Einstein gene." Einstein, considered by some to be the most intelligent individual who ever lived, didn't speak until he was four and didn't read until he was nine. West believes that dyslexics are visual spatial thinkers who process information in pictures rather than words. Since the educational system does not provide for this type of learning, West feels gifted thinkers are being ignored. To support his view, West presents the difficult early educational experiences of five Noble prize winners (or near winners): Albert Einstein, Thomas Edison, Guglielmo Marconi, Winston Churchill and Michael Faraday as examples.

Dyslexia Represented in Children's Literature

The Importance of Self-Image in Print

One of the best ways to combat negative self-imagery and public intolerance regarding dyslexia is through education. And one of the most effective modes of education is literature. Carl A. Grant (2007), when writing the forward to Violet J. Harris' book includes the following quote by Egan-Robertson:

In school, young people form feelings, beliefs, roles, and relationships, in part, through the way written materials are used to organize activity in the classroom. Hence literacy practices and especially literacy instruction affect adolescents' sense of personhood, The established purpose for using literacy, the chosen texts, the content encoded in written texts, and the interpretations built on them all shape adolescents sense of personhood including both affiliation and alienation. (p.xiii)

"Personhood" is a very complex issue for children. Self-image is often a fragile concept and the opinion of peers carries great significance. Therefore, it is extremely important that the books children are exposed to in the

classroom portray constructive images and promote diversity. Joan Wink (2005) advises teachers that "he who controls our language controls our thought" (p.3). Consequently, if children see members of their own race portrayed positively in literature they feel accepted. In addition, students of other races can form positive opinions of individuals different from themselves.

Still, when introducing literature, it is important not to fall for a one size fits all form of diversity. A single book about Latinos is not going to reflect the image of all Latinos. Issues of social class, sex, religion, and setting are also important factors. Sonia Nieto (1992) believes all children have the right to see themselves represented in literature, including students with physical and learning disabilities. Unfortunately, as Harris (1997) points out in her book, people with disabilities rarely appear in literature and when they do they are often stereotyped.

Positive and Negative Images in Print

Unfortunately, stereotypes can be found throughout literature. Harris (1997) offers the story of Little Black Sambo and Dr. Doolittle as examples. While Harris does not

advocate censorship, she cautions careful selection of classroom text is of the utmost importance. Sometimes, this type of literature can be useful in pointing out prejudice or when introducing such difficult topics as slavery or past political conflicts. Nevertheless, books that correctly and positively depict different cultures are best.

Occasionally, some negative themes in literature are not as overt as others. Daniel D. Hade (1997) talks about finding the hidden truth in children's literature. One example of a story that may have "hidden truth" is the Disney classic "The Lion King." While the story appears to relate a simple male coming of age theme, there is also some discussion the story promotes a female subservience premise. Hade suggests readers need to be as "crafty" as writers so that they can discover the hidden themes placed inside seemingly innocuous texts.

Some of the hidden themes in books about dyslexia are teacher and parent insensitivities and the notion that struggling readers are usually the class clown. While these stories may mean well, what they do not depict are the dedicated professionals and caring parents who devote themselves to helping struggling readers.

Books about Struggling Readers

There are a multitude of books that discuss dyslexia and offer advice and encouragement to the parents and teachers of dyslexic children. However, most of these books never find their way to a child's classroom. As previously stated, experts warn it is very important for all children to see themselves portrayed positively in literature. Equally important is the empathy established in non-disabled students when they see the world from another child's point of view. Currently, few children's books view the world through the perspective of a child with a learning disability, and those that do often promote negative stereotypes. The following books endeavor to offer young readers a personal view into the everyday struggles of dyslexic children:

1. *Do Bananas Chew Gum*
2. *Egg Drop Blues*
3. *Freak the Mighty*
4. *The Hank Zipper Collection*
5. *How Dyslexic Benny Became a Star*
6. *It's Called Dyslexia*
7. *Josh: A Boy With Dyslexia*
8. *How Many Days Until Tomorrow*

9. *Katie's Rose A Tale of Two Late Bloomers*
10. *Lily and the Mixed-up Letters*
11. *My Name is Brain-Brian*
12. *Yellow Bird and Me*
13. *The Alphabet War: A Story about Dyslexia*
14. *The Don't-Give-Up Kid and Learning Differences*
15. *Yes I Can: Struggles from Childhood to the NFL*

Of these fifteen books, only three view dyslexia from a female standpoint and most reinforce the image of class clown in regards to learning disabled students (See Appendix A). These stories are also inclined to focus on the dyslexic child's struggles and not their areas of achievement. Often, dyslexic children are very proficient in math and science. Dyslexics also tend to have advanced vocabularies and strong oral abilities. Nevertheless, these stories are successful in bringing other children into the difficult world of a struggling reader which is an important factor in changing negative attitudes regarding dyslexic students.

Fortunately, the literary community is beginning to recognize and reward the efforts of authors whose work highlights the difficulties of living with a disability. One such recognition is the "Dolly Gray Award for

Children's Literature in Developmental Disabilities." This award was initiated in 2000 to recognize authors, illustrators, and publishers, who appropriately portray individuals with developmental disabilities. These disabilities include cerebral palsy, epilepsy, autism, dyslexia, severe emotional disabilities, and mental retardation. However, at the present time, none of the award winners have written about dyslexia.

Summary

No one book can adequately embody an entire group of people. Therefore, in order to help children relate to the diversity that pervades their world teachers need to expose students to as much literature as possible, being careful that the stories represent a variety of races, cultures, and abilities. In addition, when choosing books specifically dealing with dyslexia, it is important to avoid the class-clown and self-deprecating stereotypical characters. Dyslexic students should be reminded that many notable people have struggled with reading and have gone on to live very successful lives. Hopefully, by educating students and teachers through appropriate examples of literature dyslexia will no longer be viewed in a negative

and unsympathetic way. With this in mind, maybe someday in the future, when a struggling reader is called upon to read in public, the monster of embarrassment will have been defeated by an outpouring of empathy.

CHAPTER THREE

ONE DYSLEXIC STUDENT'S ACADEMIC JOURNEY

Introduction

Stephen has just completed his freshman year of high school. A typical teenager, Stephen has many interests including video games, running, swimming, rock music, Japanese animation, and cooking. Stephen's current professional objectives are to become a published author of fictional short stories, a computer programmer, and a biologist. From a very early age Stephen has enjoyed literature and is presently a fan of Ernest Hemingway's writing. Stephen has also recently become interested in writing and reading poetry. Math and Science have always been his favorite subjects and his fascination with computer games and computer operating systems seems endless. Like his father and older brothers, Stephen is tall and lean and has already reached six feet at the age of fifteen. Stephen is a healthy and happy young man with a bright successful future ahead of him. However, what is not readily apparent is that Stephen has a learning disability - dyslexia.

Over the years, through trial and error, Stephen's personal learning style pattern has slowly emerged. We now know that Stephen works best using a "whole-to-parts" approach to learning. Stephen also relies strongly on receiving and giving information verbally. Stephen responds well to praise and even though he has continued to face many academic challenges he continues to maintain a positive attitude towards learning. Academically, Stephen has found the most success in learning environments that offer active construction and opportunities for verbal exchanges of information between teacher-to-student and student-to-student. Simply receiving information by reading a text is normally not a successful academic exercise for Stephen.

Stephen is a middle child with two older brothers and a younger brother and sister. Stephen's older siblings have done well in school and his younger brother has been in the Gifted and Talented Education program (GATE) for the past two years. Stephen has always enjoyed going to school, however since first beginning kindergarten he has struggled academically. Stephen's developmental milestones from birth to kindergarten progressed at the usual rate. At age five, Stephen was highly verbal and possessed an advanced

vocabulary. He knew his numbers up to twenty and could do simple addition. However, other than his name, Stephen showed little interest in learning the alphabet. Although Stephen was not reading when he began school, he loved to have books read to him and could recite entire phrases from his favorite stories. Initially, when Stephen began kindergarten, both his teacher and his parents assumed that Stephen was just a late bloomer and would eventually "catch-up" to his peers. However, over time, Stephen, his parents, and teachers would come to realize that Stephen's academic journey would require a great deal of patience, hard work, and ingenuity. The following information, relating to Stephen's academic journey, is taken from an unpublished dissertation (Spence, 2008) which is an ongoing qualitative case study focusing on the academic experience of one dyslexic student from kindergarten through twelve-grade.

Private Education

Associated Christian Education

Stephen began kindergarten at a small private Christian school in September 1998 at the age of five. The school uses a phonics based curriculum created by the

Accelerated Christian Education (ACE) organization in Garland, Texas (www.schooloftomorrow.com). The ACE organization was founded in 1970 by the Howard family who created a series of educational instruction booklets referred to as PACEs. This program offers students "a solid, master-based, back-to-basics education" and "a course of study diagnostically individualized to meet a student's specific learning needs and capabilities" (About Us, para.2)

Kindergarten students are asked to complete 60 PACEs, a total of 2,000 pages, during the academic school year. According to the ACE website, these PACEs include coordination development activities and display full-color pictures which are expressly developed to encourage a student's love for reading. Their website states that "a child learns the phonetic sounds for all letters so that when he is ready to learn to read, he will do so" (Curriculum, Kindergarten, P.2) The program also states that their curriculum includes individualized programs designed for a variety of learners and learning situations (About Us, Why ACE?, P.1)

Instructors for the kindergarten program are required to attend a four-day training seminar developed by the ACE

organization. According to their website, ACE provides each kindergarten teacher with "Easy-to-use" guide books, suggestions for dynamic storytelling, bulletin board ideas, a list of needed materials, and suggestions for discipline. The kindergarten teaching materials required, and supplied by the ACE organization, are daily instruction manuals, display cards (36), number train cards (10), a Song CD and reward stickers. The 36 phonics cards each display an alphabet letter with a phonetic marker along with a picture of an associated animal. Examples include \bar{A} for Armadillo, \bar{E} for Emo, \bar{I} for Ibex, \bar{O} for Okapi, \check{C} for Civet, \bar{G} for Gerbil, Q for Quail, and \check{Y} for Yak. The alphabet is intentionally not listed in order so that the students are able to learn each letter, along with its corresponding sound, independently and are not memorizing a pattern. ACE teachers are not required to receive a state issued teaching credential or to be college educated. Although the ACE website does suggest that students can have varying learning styles, there is no direct mention of learning disabilities and no suggestion that ACE teachers receive any special training in this area.

By the end of Stephen's kindergarten year he had completed all 60 of the required Reading-Readiness PACEs and received an award for achieving "A" honor roll all four quarters along with an official "ABCs with ACE and Christi Learning to Read" diploma. However, Stephen was unable to read. In fact, although he could recite his ABC's Stephen was unable to consistently write them in order. Stephen's social skills, speaking vocabulary, and math skills were progressing as expected. In regards to his delayed reading, the school supported the ACE teaching philosophy of continuing to focus on phonics and "when he is ready to learn to read, he will do so."

Each PACE is an academically complete unit with all reading and writing activities included in the PACE. There are no outside reading or independent writing assignments. When a PACE is completed it is placed in the student's academic file until the student's grades are submitted at the end of the quarter. Once grades have been verified, the instructors are required by the administration to destroy each PACE completed by their students during that particular quarter. This is done to ensure that students do not have an opportunity to copy from one another's work. However, this policy also means that teachers and parents

are unable to track reading or writing progress by examining a student's past work.

In September of 1999 Stephen began First grade at the same private ACE school. Grades 1-5 shared a classroom and were classified as "primary." Each of the students sat at an individual desk mounted to a wall with protruding sides that inhibited visibility. The purpose of these desks is to remove all distractions so that students can work in their independent PACEs. The entire class enrollment was somewhere between 15-20 students.

At all ACE Schools, students are given small American flags with a supporting base. Students are asked to work independently as much as possible. However, if the student comes to an area in their PACE that they do not understand they are told to place their flag at the top of their desk and wait for the teacher to come and assist them. The class environment is to remain quite at all times and there are no "shared" educational opportunities. Teachers spend their day walking from student-to-student delivering individual instruction. ACE requires each student to complete a minimum number of pages each day and a minimum number of PACEs each quarter. Each PACE contains a student test that is administered when the PACE is completed. If the test is

not passed with an A or B the PACE is to be repeated until the student succeeds. Although there is a minimum number of PACEs to be completed each year there is no maximum number. Therefore, a student who is excelling in a particular subject is not held back by their grade level or by their level of mastery in another subject.

At the age of six, Stephen sat at his desk with his kindergarten English and first-grade Word Building PACEs even though he had not displayed the ability to read. Stephen progressed at a normal level for math but consistently failed his reading PACEs. At the end of first grade, Stephen was still not reading and once again the school supported the ACE teaching philosophy of continuing to focus on phonics and "when he is ready to learn to read, he will do so."

Stephen began second-grade at the same ACE school in September 2000. During this academic year, Stephen's teacher decided to take a tactile approach to his education and began having Stephen use his hands to create the letters of the alphabet and to spell small three letter words. Although Stephen showed some improvement he was still working in first-grade World Building and Reading-Readiness English PACEs at the end of his second grade

year. In June of 2001, Stephen received an academic award for achieving "A" honor roll for first, second, and third quarter and B honor roll fourth quarter. Although Stephen still wasn't reading, he was promoted to the third-grade. At the two parent/teacher conferences held during the academic year, the teaching staff and principal assured Stephen's mother that repeating phonics PACEs was still the best academic approach for Stephen and they were certain that once Stephen mastered phonics he would quickly catch-up academically and there was no reason to worry. Once again, the staff and school supported the ACE teaching philosophy of continuing to focus on phonics and "when he is ready to learn to read, he will do so."

In the summer of 2001, Stephen's parents invested in a Leap Frog Phonics Read & Write Desk, phonics videos, phonics flash cards, and hired a reading tutor not associated with the ACE program. Stephen spent the summer "decoding" words, drilling ABCs, and working with his tutor. In September of 2001, Stephen began the third grade able to write the alphabet and recite the corresponding phonetic sounds. For the first time, Stephen began working in regular academic PACEs instead of kindergarten Reading-Readiness PACEs. However, Stephen's struggle with reading

continued, even though he had finally mastered the phonetic based curriculum that formed the foundation of the ACE program, Stephen was unable to make the quick jump to appropriate grade level work that had been predicted.

By the end of his third-grade year Stephen was working in first-grade English, Science, and Social Studies PACEs, Math once again was at grade level. Stephen began fourth grade in September 2002. Still, due to his continued struggle with reading, Stephen's academic progress remained slow. By the end of his fourth-grade year, Stephen was working in second-grade level English, Science, and Social Studies PACEs, Math was the exception at fourth-grade level. It was at this point, at the end of the year parent/teacher conference, that the administration finally hinted that there might be a problem with their previous theory regarding Stephen's ability to catch-up once he had mastered phonics. Since Stephen was not making the "quick-jump" they had expected, his teacher and principal began talking about skipping PACEs in order to bring Stephen up to a more acceptable grade level. They also suggested that if Stephen was not up to grade level by the end of his fifth-grade year that he should begin taking summer school

classes. Previously, as a primary school student, summer school had not been available to him.

During Stephen's "primary" years his older brothers had been very successful in the same ACE program. In September of 2003 Stephen's oldest brother was in ninth-grade and his other brother was in seventh-grade. Stephen's younger siblings were also advancing appropriately. Nevertheless, after doing independent research, Stephen's parents began to suspect that Stephen's academic problems might be more complex than a simple delayed acquisition of phonics. Therefore, in order to meet the academic needs of all of their children, Stephen's parents decided that it was necessary to move their children to the public school system where Stephen could receive testing and additional specialized instruction. Although Stephen began his fifth-grade year in the ACE program, in November of 2003, Stephen was enrolled at a public elementary school. A month after leaving the ACE system, Stephen's teacher from first-fifth grade mailed Stephen's family a packet of information regarding dyslexia. This was the first time the word had ever been mentioned by an ACE staff member.

Overview of Private Education

Stephen's academic experience with private education had both positive and negative components. On the positive side, the ACE program was very encouraging. By offering Stephen academic awards and incentives the program acknowledged Stephen's hard work even though he did not reach the expected level of academic success. This effort at reward response, served to help Stephen develop a positive attitude towards education. Small class sizes also allowed for more individual instruction. However, the teaching staff's lack of experience with learning disabilities deferred Stephen's dyslexia diagnosis which resulted in a delay of intervention reading strategies. In addition, although the ACE program has a strong phonics foundation which approaches reading from a parts-to-whole perspective, because of his dyslexia, Stephen would most likely have been better served approaching reading from a whole-to-parts process. Once Stephen moved passed the phonetic alphabet and single words, and began reading words in context, his connection with written language began to progress.

Public Education

Elementary School

Shortly after enrolling Stephen at a public elementary school he was given a series of diagnostic tests. As expected, the tests revealed that there was a severe discrepancy between verbal/nonverbal ability and achievement in reading decoding skills. The tests results showed that Stephen was reading and writing at a first grade level and that his spelling skills were still at the "creative spelling" stage. Although Stephen could read some sight words, he was not able to apply decoding skills to new words. It was also noted that Stephen struggled with fine-motor printing. Specifically, the tests results stated that Stephen had a "Specific Learning Disability: Severe Dyslexia" which could not be corrected without special education and related services. The official confidential psychoeducational assessment evaluation stated that Stephen's learning difficulties were:

. . . due to a disorder in one or more of the basic psychological processes and are not primarily the result of environmental, cultural, nor economic factors. Learning problems are not primarily the result of limited school

experience, poor school attendance nor multiple school changes. Learning problems are not primarily a result of visual, hearing, nor motoric disabilities; mental retardation nor emotional disturbance. The student's academic delays are not due to limited nor non-English language status. (See Appendix B)

On the positive side, the academic tests also revealed that Stephen had strong verbal skills and displayed a high level of concept comprehension. Additionally, Stephen's ability to recall a story tested at a ninth-grade-six-month level. Stephen's Math skills tested at a fourth-grade level. However, there was some concern that Stephen used unconventional methods to calculate the answers.

On December 15, 2003, a meeting was held to discuss a course of action regarding Stephen's academic struggles. It was suggested that Stephen should attempt to complete fifth grade work with a few accommodations. Weekly spelling tests would be modified to include five fifth-grade words and five high-frequency words, books on tape would be used if available and a computer program which "writes" from Stephen's vocal input would also be utilized when possible. Additionally, it was decided that Stephen should attend

school during "off track" sessions instead of taking the regular academic break.

In June of 2004, Stephen completed the fifth-grade. Although Stephen appeared to be making progress both his second and third semester report cards presented D's in every subject. This was in accordance with the school's progress report policy, which does not allow a score higher than D to be given to any student who is performing below grade level. Unfortunately, this policy fails to acknowledge any advancement or effort that falls below traditional grade levels. Additionally, this policy does not succeed in rewarding students for their hard-work and academic progress. Most importantly however, it is not accurate. Both Stephen's second and third quarter report cards marked his oral language skill and comprehension level as being below average. This clearly contradicts Stephen's previous test scores that confirmed Stephen had strong verbal skills and displayed a high level of concept comprehension. This also contradicts Stephen's study habit score of "outstanding" for his contributions to class discussions.

Overview of Elementary Education

Stephen had a very positive experience in the public elementary school system. The school played a vital role in diagnosing his learning disability and setting a positive course of action. However, the school's progress report policy did not provide an opportunity for Stephen's academic accomplishments to be recognized. On the positive side, Stephen's reading recourse instructor did provide a reward response alternative by supplying small toys and other incentives to acknowledge Stephen's effort and day-to-day progress.

Junior High School

In September of 2004, Stephen began sixth grade at a public middle school in Cathedral City. Stephen's first three periods were in a Language Arts classroom for struggling students. His four remaining classes were PE, Social Studies, Science, and Math. Grading periods were divided into six segments. Grading periods one, three, and five only reported absences, student behavior, and possible failures. Grading periods two, four, and six included actual grades. Stephen's second grading period report card showed he earned a C+ in Language Arts, a B in PE, a C- in Social Studies, a D in Science, and an A- in Math. Other

than being enrolled in Language Arts instead of English, Stephen achieved these grades without special accommodations.

Stephen's fourth grading period report card revealed he had received "B's" in all subjects. At this time, Stephen's case manager suggested that Stephen be moved from his current math class to a more advanced math class. In order to facilitate this change in schedule, Stephen's PE class and Social Studies class were also changed. Unfortunately, Stephen was unable to adjust to the new level of math and the schedule change also seemed to negatively impact his other courses. By June of 2005, Stephen's sixth period report card revealed that his grades had dropped significantly. Stephen ended the year with a D+ in Language Arts, an A in PE, a C in Social Studies, a D in Science, and an F in Math. In the spring of 2005, Stephen's California Standardized Testing and Reporting (STAR) results showed that he was far below basic in English-Language Arts scoring 265 on a 150-267 scale. In math Stephen scored below basic receiving a 284 on a 253-299 scale.

In September of 2005, Stephen began the seventh-grade at the same public middle school. Once again, Stephen's

first three periods were Language Arts followed by Science, Math, PE, and Social Studies. His second grading period report card showed Stephen had earned a C- in Language Arts, a D- in Science, a D+ in Math, an A in PE, and a D- in Social Studies. At this point, the school offered to help Stephen by sending a teacher's aid to assist him in his regular classes. However, Stephen was concerned that any special attention might negatively affect his standing among his peers. Therefore, Stephen declined the offer for a special assistant and no other accommodations were offered.

At this time, the school provided Stephen with a purple colored overlay to help him read text. As previously stated, this strategy is based on a theory from the 1970s called Meares-Irlen-Syndrome which believes that the glare of white paper against black letters causes words to shake, shiver, spin, or simply vanish for dyslexic readers. Placing a colored overlay over white paper is a corrective measure. Although there are several overlay colors, a quick assessment determined that the purple overlay would work best for Stephen. However, as a twelve-year-old male in Junior High concerned with the opinion of his peers, Stephen was disinclined to use a "purple" overlay in class.

In January of 2006, Stephen's Language Arts instructor, the same teacher he had in sixth-grade, suggested that Stephen needed to focus on phonics in order to overcome his reading difficulties. Stephen's teacher reported that he was reading about 70 words per minute which placed him at a second-grade reading level. She also suggested that Stephen's time in Language Arts should continue to focus on reviewing letter combinations and spelling rules. Stephen's teacher also mentioned that because students with Stephen's disability need repeated practice, she was having him read the same stories he had read the year before. Unfortunately, Stephen found the renewed focus on phonics and the repetition of stories monotonous. Stephen was also concerned that the three periods he spent in Language Arts disqualified him from participating in elective courses.

Stephen's fourth grading period report card showed he had earned a C- in Language Arts, an F in Science, a B- in Math, an A in PE, and a C- in Social Studies. Stephen's Science teacher, who at this time had been teaching Science for many years, did not believe in lowering grade expectations or modifying assignments for individual students. Stephen's math teacher did not allow the use of

calculators and Stephen had declined the school's offer for an adult assistant to help with reading instructions or word problems in class. Therefore, Stephen's math progress fluctuated with the amount of reading required to perform the task. Stephen was very happy with his Social Studies teacher whose lectures he found very engaging. However, because the teacher included several in class writing and reading assignments, Stephen's ability to succeed was limited by his learning disability. Stephen's sixth grading period report card showed he had earned a B+ in Language Arts, a C in Science, a D in Math, a D in PE, and a C in Social Studies. The D in PE was also related to Stephen's struggle with reading. During the last quarter of the year, the physical education class focused on health science and the assignments required reading and writing in class. The change in class structure resulted in a significant drop in Stephen's grade.

In September of 2006, Stephen began the eighth-grade at a different public middle school. Similar to his previous school, Stephen was assigned two periods of Language Arts, PE, Social Studies, Science, and Pre-Algebra. Additionally, Stephen was assigned a specialized

case manager/counselor whose only responsibility was to aid students with disabilities.

A Strategy meeting was held in October in order to discuss possible accommodations and to set academic goals. At Stephen's previous school, strategy meetings usually involved Stephen's mother, his Language Arts teacher who was also referred to as his case manager, and a school psychologist. Stephen also attended the meetings. Occasionally, specific teachers were invited to address special concerns. However, at Stephen's new school all teachers were asked to attend the meetings if their schedule permitted. The administration even offered to provide a temporary substitute if it would help the teachers attend. Once again, Stephen attended each meeting.

At the October strategy meeting, Stephen's math teacher suggested that Stephen should be transferred out of his pre-algebra class and into an Algebra 1A class which would be more challenging. Stephen's math instructor suspected that the skill level of the pre-algebra class was too easy for Stephen and because he wasn't being challenged Stephen was developing an apathetic attitude that was hindering his progress. It was also determined that Stephen should be taken out of his regular classes for tests that

required reading in order to be assisted by an adult aid. This type of assistance was acceptable to Stephen due to the fact that his peers would not know that he was receiving special support. The committee also decided to substitute Stephen's purple overlay for a grey overlay in order to help Stephen feel more comfortable using the apparatus.

Another difference between the two middle schools was the structure of the progress reports. Stephen's previous middle school prepared six reports with three of the reports providing grades. His new junior high school prepares four graded academic evaluations throughout the year along with two progress reports that estimate a current grade. Stephen's November report card stated that he had received an F in Language Arts, a D- in Science, a D in Pre-Algebra, a C in Social Studies, and a B in PE.

In January of 2007, Stephen's Social Studies and Science teachers decided to try a new approach and initiated a peer-to-peer mentoring strategy that would allow Stephen to share his knowledge and strong verbal skills while also receiving assistance in reading and writing from other students. This strategy was a turning point for Stephen. Science soon became Stephen's favorite

subject and by the end of the year he was even conducting extra curricular experiments and discussing the possibility of a choosing Science as a career path. In contrast, Stephen still felt unchallenged and bored with his Language Arts course.

Stephen's third quarter report card showed he had earned a D+ in Algebra, a B- in Language Arts, a B+ in Social Studies and Science, and an A in PE. By his final report card in June, Stephen showed even more progress receiving a C in Algebra, a B- in Language Arts, an A- in Social Studies, and A's in both Science and PE. Stephen left eighth-grade with a renewed sense of confidence and was looking forward to his freshman year of high school. In the spring of 2007, Stephen's STAR results showed that he was far below basic in English-Language Arts scoring 237 on a 150-265 scale. In History-Social Science and Science Stephen scored proficient receiving a 356 on a scale of 350-395 in History and a 358 on a scale of 350-402 in Science. Due to an administration error Stephen's Math score was not calculated.

During this school year, the Riverside County Special Education Department also tested Stephen in English Language Arts, Written Expression, Math, and Communication.

Although Stephen's test score showed that he is reading at an elementary school level, Stephen's Oral Language level tested at 12.7 and his Listening Comprehension level was 18.0. Stephen's math skills tested at grade level. J. Richard Gentry (2006) asserts that dyslexic individuals often exhibit particular strengths in comprehension, problem solving, reasoning, critical thinking, vocabulary, and general knowledge" (p.13) the test results show that Stephen follows this pattern.

Language Arts

According to the California State Board of Education Website (2008), Language Arts classes in Jr. High are designed to help students acquire a range of skills designed to give students proficiency in using language. These skills include reading, writing, written and oral English language conventions, and listening and speaking. The California State Standards stress that reading exercises should focus on word analysis, fluency, and systematic vocabulary development. Writing assignments should include multiple-paragraph expository compositions and narratives. Written and oral language assignments should focus on sentence structure, grammar, punctuation, capitalization, and spelling. Listening and speaking

assignments should focus on the organization and delivery of oral communication and analysis and evaluation of oral and media communications.

However, in Stephen's experience, Language Arts classes have not lived up to the expectations of the California State Standards. Stephen's instructors tended to focus their assignments and instruction on word analysis, reading fluency, and systematic vocabulary development. Additionally, a great deal of time was spent on written and oral language conventions such as sentence structure and grammar. Although acquiring these academic skills is important, Stephen spent several periods a day repeating the same learning processes and became bored and disengaged from the academic activities. The original intent of the Language Arts classroom was to provide basic reading and writing skills for students working below their grade level. In Stephen's case specifically, and for dyslexic students in general, it would seem a more effective policy would necessitate placing dyslexic students in traditional English classrooms supported by special accommodations.

Overview of Junior High Education

Although Jr. High initially proved difficult for Stephen, this was the educational environment that allowed

Stephen to discover his personal learning style, and adapt to both his academic strengths and weaknesses. Peer-to-peer tutoring opportunities proved very successful. This teaching strategy allowed Stephen to share his knowledge and strong verbal skills while also receiving assistance in reading and writing from other students. Colored overlays were also introduced in Jr. High and hands on experimentation in Stephen's final Science class continued to develop his enthusiasm for discovery. Language Arts classes were less successful and in the end it was discovered that Stephen worked better with an adult aid if he was taken out of class rather than tutored in the presence of his peers. While Jr. High offered fewer reward response options, the encouragement of both his teachers and the school administration helped Stephen maintain his positive outlook and he graduated eighth grade looking forward to beginning high school.

High School

In September of 2007 Stephen began the ninth-grade at a public high school. At the beginning of the year Stephen wanted to see if he could succeed in his mainstream classes without receiving special accommodations. Additionally, Stephen was reluctant to be placed in another Language Arts

class. Stephen felt that by being excluded from traditional English classes he was missing out on the literature and writing opportunities that were being offered to other students. Stephen was tired of focusing on phonics and spelling and wanted to branch out into the world of books.

However, the transition into mainstream English was somewhat difficult for Stephen. Stephen began the school year with a male instructor who was very engaging. According to Stephen, the teacher read the stories aloud and brought the characters to life. The instructor also had an organized assignment plan and explained in detail how projects should be completed. Although Stephen was very happy with his English teacher, an overcrowding problem at the school resulted in a grade-wide schedule change which led to Stephen being placed in a different English class.

A few weeks after the schedule change, Stephen's new English teacher requested that Stephen be given a reading test. Stephen was called out of his PE class to take the exam and wasn't informed by the counselor as to why he was being tested. The results of the test showed that Stephen was reading far below grade level. Even though the results of the test were somewhat expected, the counselor and English teacher felt that Stephen should be moved into a

special reading program. Therefore, Stephen's academic schedule was changed once again. Stephen was transferred out of his traditional English class and placed in a combination English and Corrective Reading ® class. Stephen would later state that he hadn't realized the importance of the reading test and because he was hot and fatigued from PE, he hadn't wholly applied himself to the exam.

Unfortunately, the transition into the combination English and Corrective Reading ® class did not go any smoother. Stephen was asked to complete reading projects on a computer program. However, the program wasn't explained to Stephen and he was unable to navigate the program on his own successfully. Not understanding the program, Stephen skipped around tests and other areas that didn't seem to allow him access and instead completed projects that he was able to open. Stephen didn't feel comfortable with his new teacher and did not request assistance. The result of this miscommunication was an inaccurate instructor's report that showed Stephen hadn't completed any class assignments. The problem was only corrected after Stephen's mother requested a parent/teacher conference to discuss possible accommodations and the problem was brought to light.

The structure of this English and Corrective Reading ® class differed from the two previous English classes Stephen had been enrolled in. One major difference was the class lasted for two periods. Another important difference was the instructor did not read any texts to the students and did not offer any instructional lectures. The class construction consisted of a period of Silent Sustained Reading, individual work with computer programs, and a workbook/journal class assignment. After asking for special accommodations, Stephen was allowed to complete the workbook assignments at home.

Once the initial computer problem was corrected, Stephen's scores on the computer assignments were much higher than the other students in his class. Therefore, after a few months in his third English class, Stephen's current teacher requested another reading test. The results showed that Stephen was reading at a much higher level than the original test indicated. There was some discussion that the results of the first test were probably negatively impacted by Stephen having been taken directly out of a PE class before taking the exam. For the third time in one year Stephen's schedule was changed in order to place him in a new English class. However, placing Stephen into a new

College Preparatory English Class also required that Stephen be moved into a new Algebra class and moved out of Corrective Reading ® and into an elective. Stephen selected Art. This was his first elective class since beginning school.

Stephen did not initially do well in his new English class. His third quarter report card revealed he had received an F in English, a D- in Algebra and Health, a B in Earth Science, a B+ in Art, and an A+ in PE. Stephen's instructor for his current English class is the same teacher he had for Corrective Reading ®. The structure of this course varies somewhat from his last class but still does not include a class lecture segment or reading by the instructor. Instead, students are asked to volunteer to read the text or are called by name to read aloud. Stephen does not volunteer to read and has not been selected.

The assignments for this course are a series of worksheets. As a special accommodation, Stephen is allowed to complete the worksheets at home. Students are asked to keep their worksheets in a special green folder which the teacher occasionally collects for grading. This has been a problem for Stephen. Worksheets have been misplaced or were not inside the folder at the time it was collected and were

therefore considered late and not graded. Another problem for Stephen is that the class texts are not allowed to be taken home. Since some chapters of the books are skipped in class, the teacher has suggested that the students purchase the books they are currently reading in order to finish the skipped sections at home. However, by the time Stephen's parents purchased the books the class had already moved on to new material. At the end of the year, the class read *Romeo and Juliet*. Fortunately, this time the instructor played an audio version of the text in class. On the positive side, Stephen is finally being exposed to literature. Reading Elie Wiesel's *Night* became Stephen's favorite English class assignment for the year.

In order to supplement Stephen's English experience, Stephen's mother began working on a creative writing project with Stephen at home. She chose Jim Burke's (2000) *Reading Reminders: Tools, Tips, and Techniques*, Lucy McCormick Calkins's (1994) book *The Art of Teaching Writing* and Linda Christensen's (2000) book *Reading, Writing, and Rising Up* as guides. Following Burke's suggestion to read poems before attempting to write them, Stephen and his mother read the Poems of Langston Hughes along with several poems written by students included in Christensen's text.

Incorporating a writing suggestion from Calkins's text, Stephen was asked to write a poem in which he compared one thing to another. The following poem was created from this writing exercise:

Incomparable

The woman I love is the moon
I can't look away as I do the stars
The time I met her I knew
Like the time you take your first steps
Her eyes are like a fresh water spring
I can't look away
The task seems meaningless to me
It does not matter
Her beauty is incomparable
Stephen

Stephen's next creative writing exercise involved the application of poetic alliteration. The following poem was the result of this exercise:

Passing By

I pass by
A green grass field
A spring surrounded with roses
A bright blue sky
With white fluffy clouds

I pass by
These things I have admired
Without a second thought
Without a second glance
Because all I see is you
Stephen

These types of creative writing assignments have been missing from Stephen's academic experience. This is in direct conflict with the recommendations of Burke, Calkins,

Christensen, and other educators who suggest reading and writing are intrinsically connected and students need to be actively involved in the creative process in order to connect to the concepts and develop into proficient readers and writers. Perhaps, if Stephen had been enrolled in regular English classes instead of the Language Arts courses he would have had more opportunities to engage in creative writing activities.

Stephen's most successful class is Earth Science. The instructor for this course teaches by using a lecture format which allows Stephen to hear the educational information he needs for homework projects and tests. During the lecture, the teacher also displays the text he is discussing on an overhead projector. Students are asked to copy the information into a notebook designated for this task. This type of instruction means that Stephen hears the text, sees the text, and writes the text. All of these actions contribute to Stephen's success in this class. In addition, the Earth Science tests include a word bank of possible answers. This is extremely helpful for Stephen because dyslexic individuals often have difficulty recalling words strictly from memory. However, if they are

given a visual clue they can usually recognize the word they are looking for.

In contrast, Stephen's Geography teacher does not offer lectures on the material and instead relies on her students' ability to read and understand the text. Some class time is dedicated to silent reading and some time in class is set aside for what the teacher calls "popcorn" reading. Popcorn reading is when the teacher selects a student to read a paragraph and then asks for each student to read in turn. This is very stressful for Stephen and he admits that he calculates which section he will be reading and then attempts to pre-read the section before his turn begins. Unfortunately, even with his pre-reading attempt, Stephen struggles to read the entire paragraph and suffers from embarrassment. Additionally, since he is not focusing on what the other students are reading he is also not learning the material.

Another issue Stephen struggles with in Geography is the structure of the tests. The first half of the test requires students to write in correct answers. However, the instructor does not include a word bank. Unfortunately, Stephen leaves the majority of these questions blank. However, the second half of the test is a true/false

segment. Even though Stephen's answers in this segment are usually correct, it is not enough to give him a passing score on the exam. It has been suggested to the Geography teacher that she could accommodate Stephen by supplying a word bank of possible answers on the test. However, she is unwilling to do so and suggested instead that Stephen be taken out of the classroom to test so that he could be assisted by an aid. However, arrangements for this type of testing have never been made. Finally, much like his current English class, the instructor hands out worksheets and asks the students to accumulate them until she requests they be turned in for scoring. However, the instructor only collects the material twice each quarter. Once again, this requires a level of organization that proves difficult for many dyslexic students.

Stephen has always enjoyed math. Nevertheless, adapting to the changes in his schedule has caused his grades to fall somewhat. Stephen's math teacher uses a lecture format and does not require her students to read. Much like Stephen's Earth Science teacher she displays the material on an overhead projector while she is speaking. Stephen is also given the material in a workbook. These teaching techniques work very well for Stephen.

Overview of High School Education

Stephen's freshman year of high school has been a very informative experience. Although there were a number of struggles and adjustments, there were also several important discoveries relating to Stephen's personal learning style and specialized accommodations. One significant finding is the inclusion of word banks on tests and writing assignments. Due to the fact that Stephen's brain has difficulty retrieving images of words providing a Word bank on exams or class assignments can make the difference between Stephen receiving an A or an F. Additionally, The introduction of creative writing has proved successful and Stephen is finally being exposed to English literature. Do to the encouragement of his school counselor, school administrator, and family, Stephen still maintains his positive attitude regarding school and is looking forward to beginning his sophomore year.

Summary

An evaluation of Stephen's educational history reveals several factors, besides his dyslexia, that contribute to his struggle with reading. One primary concern is the delay in recognizing Stephen's problem as a learning disability

instead of a simple lag in acquisition. An explanation for this error may well be the lack of education and training his ACE teacher received. By not attributing Stephen's reading difficulties to dyslexia, until he had reached the fifth grade, a narrow window of opportunity was missed to apply early intervention scaffolding strategies.

Another contributing factor that may have contributed to Stephen's delayed progress is the construction of the ACE educational materials. For example, the ACE's phonic alphabet uses phonetic examples that fail to connect to the daily lives of children. For instance, \bar{A} for Armadillo, \bar{E} for Emo, \bar{I} for Ibex, \bar{O} for Okapi, \check{C} for Civet, \bar{G} for Gerbil, Q for Quail, and \check{y} for Yak. Most likely, Kindergarten students in the state of California will not be familiar with these animals. Therefore, the program is missing out on an important opportunity to connect the material to a child's content schema.

Additionally, the ACE program's sole focus on the acquisition of the phonetic alphabet fails to consider other strategies that might have prove beneficial for students such as Stephen. As mentioned earlier, Frank Smith (1997) believes that an educational system can spend too

much time teaching young readers the alphabet since letters that do not form words are meaningless. Smith's research is supported by Weaver (2002) who feels faulty research practices has given phonics too much credit for helping students learn to read. Weaver is of the opinion, that phonics should be a small component of a balanced program that utilizes many proven techniques. In contrast to Weaver's position, the ACE program focuses entirely on Phonics.

Finally, the frequent changes in Stephen's academic schedule seem to be adding to Stephen's struggle to adapt to his academic environment. In the future, it would probably be more productive to have Stephen's schedule finalized before school begins including laying out a strategy for academic accommodations. A few accommodations that would be particularly helpful are including word banks on tests, expanding opportunities for creative writing projects, and lecture based instruction.

After completing high school Stephen plans to pursue a career in Science. Therefore, it is imperative that Stephen's next three years of high school adequately prepare him for college. In Stephen's favor, the Scholastic Aptitude Test (SAT) and colleges accepting state funds

offer accommodations for learning disabled students. Still, if at all possible, it is in Stephen's best interest to address his academic challenges at his current level.

In conclusion, if Stephen does achieve his goal of becoming a scientist he will be following the same career path chosen by two other dyslexic students, Albert Einstein and Thomas Edison. As mentioned earlier, this ties into Thomas G. West's (1997) theory that dyslexics are visual spatial thinkers who process information in pictures rather than words. Perhaps, Stephen does carry West's definition of the "Einstein Gene."

CHAPTER FOUR

DYSLEXIA: RECOMMENDATIONS FOR TEACHING STRATEGIES AND FUTURE AREAS OF RESEARCH

The Dyslexic Brain

Howard Gardner (2005), whose theory of multiple intelligences has inspired much research and discussion regarding individual learning styles, once referred to human intelligence as "a set of relatively independent computers. One computer deals with language, a second with spatial information, a third with information about other people" (p.6). In regards to "Linguistic Intelligence" Gardner writes that this particular "computer" element of the brain deals with the "intelligence of a writer, orator, and journalist" (p.7). If all goes well, linguistic intelligence enables individuals to participate in all aspects of their language, including reading and writing. Sometimes however, multiple intelligence "computer systems" don't always function as anticipated - dyslexia is one example. Still, recent neurological research, along with careful classroom observation, is beginning to offer

important insights into effective dealing with this specific learning disability.

When faced with a struggling reader, the first task of the educational system is to correctly define the problem. If the student has received adequate reading instruction, is of normal intelligence, and is motivated to learn, yet still has not achieved reading fluency, an MRI scan should be administered. As mentioned in the Literature Review segment of this paper, many respected scientists and educators such as Shaywitz (1998), Gentry (2006), Tucker (2006) and Schmid (2008) have confirmed that dyslexia can be diagnosed through current brain scan technology. Since only five to nine percent of students in the United States are truly dyslexic, the number of brain scans requested each year shouldn't place a financial or time consuming burden on either medical or educational institutions. Furthermore, the benefit of a definite diagnosis is essential to establishing an effective educational plan for the student.

Making Connections

Formulating an effective educational approach for a dyslexic student requires implementing teaching strategies

that will enable the learner to make concrete connections with text. Gardner (2005) accounts for learning disabilities, by suggesting that these students "have jagged intellectual profiles (p.7) in other words their "computer connections" are not smooth or clear. Gardner's Multiple Intelligence theory also puts forth that each category of intelligence, such as linguistic intelligence, has its own separable components. This explains why a dyslexic individual can have strong verbal skills as well as a highly developed vocabulary and still struggle with reading and writing. With this in mind, teachers can develop lesson plans that can help to smooth out "jagged" connections or provide the missing link-up between academic knowledge and ability.

Gardner (2005) suggests one way to smooth out jagged connections is through redescription. Gardner defines redescription as content that "is presented in a number of different media and symbol systems" (p. 12) and goes on to state "it is a big mistake to make the same point in the same way - you lose people's attention very quickly. The challenge is to make the same point in as many different ways as possible" (p.12) in order to engage the student's individual learning style. This is especially significant

when dealing with a student who may not receive information in the manner normally presented. This is the case with dyslexic students who often can not connect to reading through phonics alone. The dyslexic brain tends to grasp concepts best when they are presented as whole units and delivered in as many different ways as possible. Therefore, a teacher who knows their student is dyslexic can pay particular attention to providing reading plans that offer whole-to-parts instruction instead of parts-to-whole.

Additionally, when working with a dyslexic student, it is important not to wait until one connection has been made before presenting new ideas. For example, many educators have discovered that students with reading and writing difficulties often easily connect to poetry. It is believed that the lack of sentence structure, punctuation, the repetition of words, and the smaller scale appeals to struggling students. However, as Mary Ehrenworth (2003) points out "the arts, most especially the visual arts and poetry, are too often reserved in schooling for a portion of the population that is considered to have merited access, students who have already achieved 'literacy'" (p. 45); waiting for a dyslexic student to achieve literacy before introducing them to poetry risks losing an important

and creative opportunity to make a reading/writing connection.

Another educational opportunity often not offered to dyslexic students is peer-to-peer tutoring opportunities. However, if the information can be offered verbally, peer-to-peer exchanges can allow dyslexic students to positively contribute information in a class environment while also connecting with fellow students. Finally, as suggested by Wink (2005), helping a dyslexic student connect with their "home run" book can also help them make the transition from being a struggling reader to simply being a reader.

Helpful Accommodations

There are several classroom accommodations that can improve a dyslexic student's ability to connect academically. If available, the class text and all additional books should be provided on tape. Additionally, providing a printed hand out of any information applied to a white board can also assist dyslexic students who often find it difficult to copy things in a timely manner.

Also, as suggested by Ketch (2005) and Nunley (2003), a verbally active learning environment particularly meets the needs of dyslexic students and providing oral exams

instead of written tests will most likely produce the best results for the student.

As stated earlier, sustaining a positive student attitude is also important when working with a struggling reader. With this in mind, providing reward response opportunities is essential. As stated by Lyons (2003) "emotion plays a critical role in the learning process" (p.95) and focusing on the dyslexic student's abilities instead of their challenges helps to build their self-esteem. It is also important to see the student as more than just a struggling reader. As Patricia H. Hinchey (2001), suggests, it is unhelpful to apply a single label to child "by pretending that only one name for a thing - or person - exists, we limit our children's vision and impose upon them a single reading of the world that distorts it hopelessly. . . it's possible to see the world in more than one way, so more than one definition of 'normal' exists" (readingonline.org), with this in mind, it is essential that the dyslexic child understand that they are their own definition of normal.

Future Research and Recommendations

A recent study by Children's Hospital in Boston, focusing on the brain patterns of dyslexic readers, suggests that disorganized white-matter, which consists mostly of nerve fibers connecting areas of gray matter, could be the cause of dyslexia. Christopher Walsh (2007) the genetics specialist in charge of the research, suggests white matter integrity plays a critical role in reading fluency and that defects in white matter may alter brain patterns when reading. Their study hopes that "pinpointing the brain structures responsible for fluent reading may eventually help researchers and educational specialists develop and use techniques that help improve the automatic nature of reading in children and adults"

(www.sciencedaily.com).

Another study, conducted by the American Academy of Neurology, discovered that the brain patterns of dyslexic readers changed after receiving intense reading instruction. However, instead of making new connections in the brain as they expected, the doctors found the area of the brain that displayed change were the same areas of the brain normal readers use for the identical function.

Therefore, Dr. Elizabeth Aylward (2003) suggests "these

results indicate that instruction doesn't 'rewire' the brain of the dyslexic child, but instead strengthens the normal circuits which are already in use"

(<http://www.sciencedaily.com/releases/2003/07/030724083846.htm>, para.6).

Both of these research projects are important in that they can account for both the cause of dyslexia and its effect. In view of the fact that science has confirmed dyslexia does in fact exist, and research has proved effective education can have an impact on the condition, it is imperative that dyslexic students receive an MRI to confirm their condition. By doing so, specialized instructional programs can be implemented. With these programs in mind, periodic brain scans can be used to monitor the results of the instruction and if necessary academic adaptations can be made to receive the desired outcome.

In time, through continued scientific research and academic discoveries, dyslexic students will no longer feel like "reading outcasts." Instead, through the use of multiple teaching techniques and an understanding of their individualized learning styles, dyslexic readers will become proficient readers. By doing so, they will earn

their own personal library ticket "to the wonderful world of books" where a world full of discovery will be at their fingertips.

APPENDIX A

CHILDREN'S LITERATURE ANNOTATED BIBLIOGRAPHY

1. *Do Bananas Chew Gum* by Jamie Gibson (1997). The main character of this book is Sam Mott, a sixth grader with dyslexia. Sam has a vivid imagination, an extensive oral vocabulary, and very strong math skills. Unfortunately, Sam is also unable to read. The story covers many traditional problems associated with dyslexia such as trouble distinguishing between left and right, a lack of organizational skills, and social conflicts due to a lack of peer acceptance. In addition to discussing dyslexia, the book also attempts to cover other types of learning disabilities. The story ends with Sam's new understanding of dyslexia and the realization that he can do better in school if he works hard. On the positive side, this book offers a humorous account of very real problems and would most likely be received well in a classroom setting. However, one stereotypical element is the comparison of dyslexia and retardation. AT one point in the story, Sam's mother questions whether or not her son might be retarded.

However, considering all of Sam's other abilities, including strong verbal skills and an advanced aptitude for math, this scenario seems highly unlikely.

2. *Egg Drop Blues* by Jacqueline Turner Banks (1995).
The two main characters in this story are Judge and Jury, two African-American twin brothers. The story begins with Judge just having been diagnosed as dyslexic. Judge's mother believes that the next course of action should be sending Judge to a special school that can offer him different teaching methods. However, Judge is very much against being separated from his twin brother and his friends at school. Judge believes if he can just win the upcoming science contest he can prove to his mother that he can succeed at a regular school. This book offers an entertaining story and if it were shared in a classroom setting it would most likely generate compassion among younger students for peers that struggle with dyslexia. This book won the 2000 Sunshine State Young Readers Award (FL) in 2000.

3. *Freak the Mighty* by Rodman Philbrick (1993). The two main characters in this story are Maxwell Kane and Kevin. Maxwell struggles with a learning disability and Kevin struggles with a physical disability. The unifying factor which brings the boys together is they are both being teased by their peers. Up until he meets Kevin, Maxwell has a strong dislike for reading and books. However, once Kevin introduces Maxwell to the tales of King Arthur, Maxwell learns to love the world of books and tries to overcome his reading difficulties. Sadly, Kevin becomes ill and dies. However, in the end Kevin has helped Maxwell through his reading disability and has given him the gift of literature. On the negative side, Maxwell is sometimes portrayed as being mentally slow compared to Kevin. However, students reading this book should relate to the painful teasing both Maxwell and Kevin endure and should become more sympathetic to people with both learning and physical disabilities.
4. *The Hank Zipper Collection* by Henry Winkler and Lin Oliver (2005). In this series of books,

Winker and Oliver's fictional character deals with his dyslexia through humor. The character of Hank Zipper is based on Henry Winkler's own experience as a dyslexic child. Unfortunately, this representation once again focuses on the negative aspects of dyslexia instead of the positive traits. For example, the cover of the latest book depicts a young boy holding his report card. Regrettably, the report card shows the nine-year old male character receiving a D in Math, a D in Social Studies, a D in Spelling, and an A in PE. Once again, a dyslexic child is depicted as an academic failure and a source of amusement. Some of the titles in this series are "Help! Somebody Get Me Out of Fourth Grade," "Hank Zipper: The World's Greatest Underachiever," "I Got a D in Salami," "The Night I Flunked My Field Trip," and "The Curtin Went Up, My Pants Fell Down." Although the titles are attempting to approach the subject in a humorous manner, they are in fact perpetuating the image of the "stupid" dyslexic child.

5. *How Dyslexic Benny Became a Star* by Joe Griffith (1997). The main character in this story is named Benny Whitley. However, because Benny has been struggling academically, his fifth-grade peers have nicknamed him "Stupid Benny." Benny's parents believe he isn't applying himself to his studies and suggest he should work harder in school. In order to win the admiration of his peers and his parents Benny dreams of making the football team and becoming an athletic star. Eventually, Benny's coach suggests that he might be dyslexic. This story exposes some of the difficulties dyslexic children have in school and if presented in a classroom setting it could be used to discuss learning disabilities and teasing. However, the parents in this story, especially the father, are depicted as somewhat uncaring and reluctant to accept the possibility that their child may need specialized academic help.
6. *It's Called Dyslexia* by Jennifer Moore-Mallinos (2007). This book, designed for younger children, tells the story of a little girl who loves school

but is struggling to read. This text is part of the Barron's "Live and Learn" series designed for children dealing with special challenges. The child in this story has learned her ABC's but can't put the letters together to form words. Her teacher explains that she has dyslexia and encourages her that with extra help and lots of practice she will learn to read and write. The book closes by offering parents a few suggestions in relation to helping their dyslexic child learn to read. Additionally, this text has a Spanish language version.

7. *Josh: A Boy With Dyslexia* by Caroline Janover (1998). This story is about Josh, a ten year old boy struggling with dyslexia. Josh is happy at home until his family moves to a new neighborhood. Josh is faced with the difficult task of leaning new street signs and attending a new school. At his old school Josh felt as if he had his teacher "fooled" but at his new school Josh is placed in a special class designed to help him with his reading. To add to his troubles, a school bully starts calling Josh a

"retard" and teases Josh about being in "special" classes. In the end, Josh learns how to cope with his dyslexia and even wins the respect of the bully.

8. *How Many Days Until Tomorrow* by Caroline Janover (2000). This book is a sequel to *Josh: A Boy with Dyslexia* written in 1988. The first book, like many other books about learning disabilities, deals with Josh's struggles inside the classroom. In the first book Josh is ten, in this book Josh is twelve. By constructing the book as a journal, *How Many Days Until Tomorrow* examines the day-to-day struggles of a dyslexic child from Josh's point of view. Josh and his brother Simon are spending the summer with their grandparents on an island in Maine. Josh's grandfather seems to favor his seemingly more intelligent brother. However, in an emergency, it is Josh who comes to his grandfather's rescue. One positive aspect of this book is the emphasis that learning can take place outside of a classroom and that everyday activities are educational opportunities.

9. *Katie's Rose a Tale of Two Late Bloomers* by Karen Gedig Burnett (2000). The little girl in the book is a struggling reader and her parent's are very concerned. The illustrations are quite colorful and elaborate. The characters include Katie, her mother, father, and grandmother. Katie and her family are Spanish. The wise grandmother encourages the family that Katie will succeed in school if they just give her their love and support. At the end of the story the grandmother gives Katie a rosebud in a pot and tells her everything "blooms" in its own time. In the back of the book there is a list of very successful people, Albert Einstein for example, who were "late bloomers." The author even includes herself in the "late bloomer" category. As a child Burnett didn't do very well in school, yet she still grew up to be a writer.
10. *Lily and the Mixed-Up Letters* by Deborah Hodge (2007). Lily enjoyed kindergarten but by the second grade she no longer likes school. Lily's dyslexia comes to light when her teacher decides to have her elementary class read in front of

their parents at an open house. Like many struggling readers Lily is terrified of the event and shares her dilemma with her mother. Lily's mother shares that she also had trouble reading in school and proceeds to help Lily practice her reading for the class presentation. Lily struggles a little during her presentation but eventually is successful. One positive element of this story is Lily's watercolor paintings which add an emotional element to Lily's problem and display a positive ability balanced against her academic struggle.

11. *My Name is Brain - Brian* by Jeanne Betancourt (1993). The main character of this book is a sixth grade boy named Brian. Brian has been struggling in school and is compensating by becoming the class clown. Brian's new teacher suspects he may be dyslexic and eventually a series of tests proves her right. Once Brian understands his problem he settles down and begins to focus on his education. While the book focuses on Brian's reading and writing difficulties it also highlights his excellent

math skills which helps to confirm that dyslexic children are intelligent.

12. *Yellow Bird and Me* by Joyce Hansen (1986). This Story is also about sixth graders. Both Doris and Yellow Bird live in the Bronx and are black. Yellow Bird is dyslexic and once again is described as the class clown. Doris befriends Yellow Bird and discovers his serious side and his struggles with reading. Eventually, Yellow Bird earns the lead in the school play and earns the respect of his peers. Similar to *Freak the Mighty*; a reader helps a non-reader to become successful.
13. *The Alphabet War: A Story about Dyslexia* by Diane Burton-Robb (2004). This story explores the problems of Adam, a third grade dyslexic student who is struggling to read. Adam began school as a happy book-loving child. Unfortunately, Adam now suffers from low self-esteem and is acting out in class. Although his parents have hired tutors to help him, things don't begin to change until a reading specialist diagnoses Adam as dyslexic. Adam's teacher explains reading will always be

difficult for him but with hard work it will be possible. The illustrations in this book chronicle Adam's changing emotions as he learns to deal with his dyslexia.

14. *The Don't-Give-Up Kid and Learning Differences* by Jeanne Gehret (1996). The main character in this story is Alex. Alex is a struggling reader who is being teased by his peers for lagging behind academically. Alex dreams of being an inventor like Thomas Edison but fears his reading difficulties will hold him back from being successful. However, once Alex discovers that even Thomas Edison struggled with reading, he begins to understand he too can be successful if he doesn't give up. The story's view of dyslexia is limited to the traditional depiction of letters that jump around on the page or appear backwards. However, it does a good job of emphasizing that dyslexia has nothing to do with a lack of intelligence.
15. *Yes I Can: Struggles From Childhood to the NFL* by Neil Smith (2002). In this book, Neil Smith, a very successful NFL player shares his personal

struggle with dyslexia. Smith discusses the various modifications his teachers made to help him academically. However, Smith also reveals that as a member of the NFL he still needed to have someone else read his tests for him.

However, Smith also shares that he never let his learning disability limit him. The book includes colored pictures and does a good job of connecting dyslexia to a real individual that has achieved a high level of success.

APPENDIX B
PSYCHOEDUCATIONAL ASSESSMENT

FACTORS AFFECTING DISCREPANCY AND/OR ELIGIBILITY

Learning problems are due to a disorder in one or more of the basic psychological processes and are not primarily the result of environmental, cultural, nor economic factors.

Learning problems are not primarily the result of limited school experience, poor school attendance nor multiple school changes.

Learning problems are not primarily a result of visual, hearing, nor motoric disabilities; mental retardation nor emotional disturbance.

The student's academic delays are not due to limited nor non-English language status.

RECOMMENDATIONS

1. The present recommendations are based on information available at the writing of this report. The student does meet the state criteria for special education. Final placement, services, and modifications will be determined at the IEP Team meeting.
2. Based on the review of existing data, including information, observations from parent and classroom teachers, there are no identified needs for assistive technology or services.
3. Present learning materials in a variety of ways - through the motor, tactile, kinesthetic, auditory, and visual modes. In this way the student may group and learn the material in the most comfortable way possible for him.
4. Short simple and clear instructions will be beneficial. Make instructional statements one at a time - making sure the student understands before going on to the next statement.
5. Monitor the student's attention problems, the student may require frequent breaks, and material's presented in reduced portions in order to optimize task completion.

APPENDIX C
SELECTED PROGRESS REPORTS

PROGRESS REPORT
MARKING KEY

A	Excellent
B	Very Good
C	Average
D	Below Average
F	Very Poor

PROGRESS REPORT

Grade Five 2003/2004	Quarter Two		Quarter Three	
	Above Grade		Above Grade	
	At Grade		At Grade	
	Below Grade	X	Below Grade	X
TOTAL MATH Computation Application	D		D	
TOTAL READING Comprehension Word Attack Vocabulary Reads Independently	D		D	
LANGUAGE Written Oral	D		D	
SPELLING Word List Written Work	D		D	
SCIENCE/HEALTH	D		D	
SOCIAL STUDIES	D		D	

STUDY HABITS
ATTITUDES AND BEHAVIOR
MARKING KEY

O	Outstanding
V	Very Good
S	Satisfactory
I	Is Improving
N	Needs Improvement

Grade Five 2003/2004	Quarter Two	Quarter Three
STUDY HABITS Works Independently Listens Attentively Follows Directions Contributes to Discussion Contributes to Activities Brings Materials to Class Uses Time Wisely Works Neatly and Carefully Completes Class Work Completes Homework	 I I I V V S I I I I S	 I I S O O I I I I I V
ATTITUDES AND BEHAVIOR Respects Authority Consideration for Others Respects Personal Property Follows Class Rules Demonstrates Self Control Assumes Responsibility	 S I I S S S	 S I I S S S
ACTIVITIES Art Participation Music Participation Physical Ed. Participation Handwriting	 S S S I	 S S S I

Grade Six 2004/2005	Grading Period Two	Grading Period Four
Language-Arts	C+	B
PE	B	B
Social-Studies	C-	B
Science	D	B
Math	A-	B

Grade Six 2004/2005	Grading Period Six
Language-Arts	D+
Math	F
Science	D
Social-Studies	C
PE	A

Grade Seven 2005/2006	Grading Period Two	Grading Period Four	Grading Period Six
Language Arts	C-	C-	B+
Science	D-	F	C
Math	D+	B-	D
PE	A	A	D
Social-Studies	D-	C-	C

Grade Eight 2006/2007	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
PE	B	B	A	A
Social Studies	C	B	B+	A-
Language Arts	F	C	B-	B-
Pre-Algebra/Algebra	D	B-	D+	C
Science	D-	B-	B+	A

Grade Nine 2007/2008	First Semester
English 1 CP	C+
Corrective Reading	C+
Geography CP	D-
Algebra 1 CP	B-
PE	A+
Earth Science CP	B-

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