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How can Incremental Rehearsal Be Used to Facilitate Successful Sight Word Acquisition for English Language Learners to Improve Their Sight Word Reading Ability?

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HOW CAN INCREMENTAL REHEARSAL BE USED TO FACILITATE

SUCCESSFUL SIGHT WORD ACQUISITION FOR ENGLISH LANGUAGE

LEARNERS TO IMPROVE THEIR SIGHT WORD READING ABILITY?

By

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CHAPTER ONE

INTRODUCTION

This capstone explores the question: *How can Incremental Rehearsal (IR) be used to facilitate successful sight word acquisition for English Language Learners (ELL) to improve their sight word reading ability*? To answer this question, I collected resources on IR and other sight word acquisition programs for early elementary students, as well as exploring why sight word recognition is so important in grades K-3. Then I developed a teaching plan that lines out how to facilitate IR with ELL students struggling to master a sight word vocabulary.

My educational journey

I embarked on my teaching journey because of the joy it brings me to see a child master something I showed him/her how to do. I discovered this joy as a swimming lesson instructor when I was 16. Fast forward to 22, I found myself unfulfilled at my "desk job," wondering where I had gone wrong. Still teaching swimming lessons on the side, I realized that teaching was my true passion. I sought out licensure, and when I first stepped into the classroom, I was unaware and unprepared for the incredible educational inequity in our schools. I had gone to an inner city high school, and had witnessed the division of students (mostly along black/white lines), and because of my youthful naiveté, I had simply accepted that division as the way the world works. It was not until I learned

about the achievement gap, that it became apparent to me that this division was not because one group of students was simply smarter than another.

The achievement gap has risen to the ranks of national prominence in recent years. It is characterized by a disparity in test scores. One of the manifestations of this disparity occurs along the socioeconomic status of a child's family (Sirin, 2005). Simply put, children who come from poor households tend to perform poorly on standardized tests, while children who come from wealthy households tend to preform well.

This disparity tends to run along racial lines as well. Generally, white children (usually coming from more affluent families) do better on standardized tests than children of color (usually coming from less affluent families) (Mendoza-Denton 2014). The tests tell us that some children are being prepared to be the future leaders of tomorrow, while others are not. What's come to light over the past several decades is that these children of color are not being left behind because of traditionally held beliefs about them (that they are lazy, that they do not care about education, that inherently they don't carry the same intellectual potential as someone from a higher socioeconomic status). They are being left behind for a number of reasons. Among these reasons is that our classrooms were not designed to accommodate a student population as heterogeneous as our American student population has become. This creates a challenge for educators, but one that we must rise to meet. Failure to meet this challenge will result in a continued inequity in our teaching system. All children deserve an excellent education, and as far as I am concerned, it is our moral obligation to provide them with one.

The depth of our society's heterogeneity increases year by year. In 2012, the U.S. Census Bureau released a report stating that, "All in all, minorities, now 37% of the

population, are projected to comprise 57 percent of the population by 2043." The report also stated that the younger population would become increasingly more minority. In these minority groups, Asian Americans are the fastest growing group. As our country continues to become more diverse culturally, linguistically and racially, it becomes more and more clear that we need to adapt to the changing demographics in our public school systems.

Adaptation based on a child's particular needs is not a new idea, and as early as the 70's, educators have been working to meet the needs of our children who do not fall in the center of the bell curve. In 2002 the periodical *Educational Research* published an article stating that in the 1970's and 80's there was national progress regarding closing the achievement gap, but by the beginning of the 1990's, that progress had abruptly reversed course. During the last 30+ years, control over accountability of schools has shifted away from the states and towards the federal government. Nationally from *A Nation at Risk* to the No Child Left Behind legislation, we have been trying to solve this problem, with varied and often underwhelming success.

Here in Minnesota, that narrative holds true. In 2011, Minnesota's white fourth graders scored 83% proficient in reading, and 80% proficient in math on the Minnesota Comprehensive Assessment (MCA). The closest scoring children of color (Asian/Pacific Islander) to Minnesota's white children scored 11% lower in math and 17% lower in reading. Minnesota's Black children scored 45% proficient in math (36 percentage points behind their White classmates), and 52% proficient in reading (31 percentage points behind their White classmates). Though the very lowest scoring population in Minnesota was our ELLs. An ELL is defined as a student whose native language or home language

is not English. The ELL population, scored only 43% proficient in math (37 percentage points behind their White classmates), and 40% proficient in reading (43percentage points behind their White classmates) (Minncan, 2013).

I work in an urban public school in Minnesota, with a high population of ELLs, as well as children of color. My classroom is comprised of Somali, Hispanic, Vietnamese, Cambodian, and English speaking students. In my classroom, 72% of my students are classified as ELLs. Based on the figures in the previous paragraph, by grade four it is likely that most of my students will not receive a proficient rating on their MCAs. It seems evident that here in Minnesota, we are not meeting the needs of this group. I find this lack of achievement very troubling, and should not be the case for any student educated in Minnesota. Each day I spend with these children needs to be very beneficial to them, so that they are not only successful in my classroom, but successful after they advance to the next grade. Their success equals meeting progress benchmarks as defined by the Common Core standards that Minnesota has adopted, as well as achieving proficiency on their MCA tests each year. If they do not get a strong foundation in reading and other subjects from me, there is little chance that they will be able to pass each year's benchmark and MCA tests, and continue to do so in later years. This leaves me with some difficult choices to make. What are the best methods for successful word acquisition for linguistically diverse students to improve sight word reading ability?

It has always seemed self-evident to me that the most important skill that a child will acquire is the ability to read. Without the ability to read, all the other subjects become increasingly more challenging. Believing this leads to trying to find a way to triage how much effort, and in what ways, a teacher is supposed attack all the aspects of

reading (phonics, phonemic awareness, vocabulary, comprehension, fluency, sight word recognition, just to name a few). Many teachers advocate for a balanced literacy block, with different chunks of time devoted to each aspect of reading.

One thing that I have noticed that is particularly troubling for my new readers is the rate at which they read (or words read per minute). Sometimes, their reading rate is so slow that by the time they have reached the end of a sentence they no longer remember what the sentence was about. My beginning readers will always have to decode new words, which may slow them down. However I can help to speed up their rate by making them more familiar with words that frequently occur in sentences in English. These words are commonly referred to as high frequency words, or sight words. Since these words appear so often, it will make reading much easier if children memorize them instead of decode them each time they come across them in sentences. This is especially important for pesky words in English that seem to defy phonemic rules, words like "was" and "the." These words cannot be decoded and, as a result, must be memorized. In my classroom, I refer to words that are high frequency, and that are difficult or impossible to use phonemic rules to read, as sight words.

Each year while I was teaching first grade, most of my students easily memorized and retained the 170 Dolch sight words list that I used. Dolch sight words were created in 1948 by Edward William Dolch, PhD. He used common children's literature of the time period, to come up with a list of words. These words generally occurred frequently in the literature, or were words that did not follow phonetic rules ("Meet Dolch," accessed 2016).

We practiced saying each word, using them in sentences, and alphabetizing them. All these tasks were designed to give learners enough practice with these words to memorize them. However, there were always a few students in my room who, despite my best efforts, could not seem to retain their sight words. They practiced with the other children but did not retain the words. I did not want to leave these children behind considering what was at stake. Past attempts using more practice with these students did not prove very fruitful. After some research, I came across a flash card drill strategy that seemed to have promising results.

Incremental Rehearsal (IR) is a flash card drill method of learning new material. Incremental Rehearsal has been used to master concepts of math, as well as different aspects of reading such as sight word recognition. Regarding sight word recognition, IR is related to other flash card drill methods in the sense that unknown words are shown to a learner for the purpose of acquisition and practice of new words. The particular difference between IR and other flash card drill methods is twofold. Incremental Rehearsal intersperses known words into the flash card group, with unknown words that are being taught. Incremental Rehearsal uses a ratio of 9:1 known words to unknown words.

The creation of the IR method led to my capstone question: *How can Incremental Rehearsal be used to facilitate successful sight word acquisition for English Language Learners to improve their sight word reading ability*?

The remainder of this capstone answers this question through a variety of tasks. First, Chapter Two discusses the importance of reading proficiency, and the link between fluency and comprehension. I cite research regarding the nature of reading as an operant

behavior that suggests particular ways in which to teach reading. I make a case that for struggling readers, flash cards can be a possible solution to difficulties with word recognition. Specifically, IR is a method with research that suggests it is an efficient method for teaching struggling readers. Finally, I explore the different Tiers of instruction. Then, Chapter Three outlines the curriculum methods and central sources used to create an intervention curriculum. Next, Chapter Four includes a matrix for curriculum and elaborates upon how the organization facilitates purposeful IR study. Finally, Chapter Five reflects on the major learnings of this capstone process and suggests topics for future research.

CHAPTER TWO

LITERATURE REVIEW

Introduction

In the state of Minnesota, children begin to take the states high stakes standardized tests, known as the MCA, in third grade. This test is given in English, to all students, regardless their native language or level of fluency with English.

This presents challenges for students who do not speak English as a native language. Among this population of ELLs in each classroom, there are those students who seem to struggle significantly more than their ELL peers. These students struggle to accomplish skills their classmates do with relative ease. In an attempt to help these struggling students, teachers employ varying levels and types of intervention, in the hopes that different tactics and strategies will reach these struggling students.

One such intervention is called Incremental Rehearsal (IR). IR is a flashcard drill method most commonly used to help students master letter sounds, words, numbers, and math facts. This capstone will examine the question: *How can Incremental Rehearsal be used to facilitate successful sight word acquisition for English language learners to improve their sight word reading ability*?

English Language Learners

What is an English Language Learner? An ELL is a pupil who has Limited English Proficiency (LEP). A student with LEP as defined by the No Child Left Behind Act of 2001 is someone who:

was not born in the United States, or whose native language is other than English; who comes from an environment where a language other than English has had a significant impact on the individual's level or English language proficiency; whose difficulties in speaking, reading, writing, or understanding English may be sufficient to deny the individual – the ability to meet the State's proficiency level of achievement on State Assessments; the ability to successfully achieve in classrooms where the language of instruction is English; or the opportunity to participate fully in society. (No Child Left Behind Act of 2001, 20 U.S.C. § 7801(2004)).

Who are our ELLs? According to Soto, Hooker, and Batalov (2015), in 2013 71% of ELLs were Spanish speaking. The next closest group was the Chinese, at four percent. All other populations were roughly 1-2 percent, or not represented in the data at all.

In Minnesota, the statistics show a similar trend. In 2012 approximately 39,000 ELL students spoke Spanish. However, Minnesota's ELL population also includes many non-Spanish speaking ELLs. The two closest ELL populations to Spanish speakers are the Hmong and Somali. The Hmong ELLs represent approximately 20,000 ELLs. The Somali ELLs represent approximately 13,000 ELLs. (Minnesota Minority Education Partnership, 2012).

In the urban school district where this capstone takes place, in 2011 the number of students who identified as ELL was 7,307 out of the total urban public school district population of 34,427. (Minneapolis Public Schools, 2013).

Standardized State Testing and ELLs

Why is this specific classification of a subgroup of the population important? It is important for many reasons, but two that are of particular significance are (1) the population growth of ELLs in American schools, and (2) their outcomes on standardized tests as predictors of future success.

According to a report published in 2007 by the National Clearinghouse for Language Acquisition, the LEP population has been growing rapidly since 1995-96. In 1995-96, the total population of U.S. school children was 47 million, 3 million of which were LEP students. In 2005-06 the total population of U.S. school children grew by 3.66 percent, while the LEP population in that data grew by 57 percent. (National Clearinghouse for Language Acquisition, 2007)

In the last decade standardized testing has taken center stage as schools are held accountable to their students' performance. The No Child Left Behind (NCLB) legislation of 2001 mandates that schools report on different subgroups of their population, including ELLs.

In 2002, Anneka Kindler compiled a survey of data from all 50 state on educational programs and services for LEP students. This study analyzed LEP data from all 50 states in 2002, and found that only 18.7% of LEP students met state proficiency standards.

In a study conducted by Ruiz-de-Velasco & Fix, (2000), data was collected and analyzed from a program aimed at helping LEP students achieve. Program in Immigrant Education (PRIME), was created in 1993 by the Andrew W. Mellon Foundation to address the needs of LEP students. The program operated in California and Maryland, in a total of five school districts. Data from the program paints a bleak picture of future success for LEP students. The researchers cite several unfortunate findings. Of particular note in the findings is the projected success of a student on a standardized test, and their LEP status. When LEP students take standardized tests, they are far more likely to score below the 25th percentile as ranked nationally.

Advocates for ELLs are quick to point out that because of their LEP, the standardized tests are not showing what the student really knows. According to Jamal Abedi (2002) at the University of California, these standardized tests do not fully reflect what an ELL knows because, "language factors are likely to reduce the validity and reliability of inferences drawn about students' content based knowledge" (pg. 233). As cited in Abedi (2002), this reduction in reliability and validity is explained:

> For all test takers, any test that employs language is, in part, a measure of their language skills. This is of particular concern for test takers whose first language is not the language of the test. Test use with individuals who have not sufficiently acquired the language of the test may introduce construct-irrelevant components to the testing process. In such instances, test results may not reflect accurately the qualities and competencies intended to be measured (pg 91).

Despite the difficulties students encounter on these tests, they are considered the standard at which a student must achieve to be successful in their educational career. On

a standardized test, students need to call upon the many areas of literacy they have learned to employ. Along with their academic knowledge, their command of language is being put to the test. Students often need to read the test, which requires that they decode unknown words (phonemic awareness and phonics); recognize and read fluently known words (sight words and other words learned); and comprehend the idea or message of what they are reading (comprehension and vocabulary). These Common Core Standards literacy skills are required in addition to the various content-specific knowledge students must master to be successful on a state standardized test.

While there is a broad shift towards the use of standardized assessments as a means to assess a student's competence and proficiency in a specific content area, proficiency in literacy is still at the core of a numerous discussions around student academic growth. Data in the United States shows that by the 4ᵗʰ grade, 40% of students are "non-fluent readers" (Ross and Begeny, 2011). In 2007, 50% of Latino fourth-graders read below a Basic level, which illustrated great disparities among their white, non-Latino counterparts which only had 22% of students reading below a Basic level (Ross and Begeny, 2011).

These discrepancies also attracted national attention, leading the Obama Administration to include ELL students in their Education reform plan, stating "Obama and Biden support transitional bilingual education and will help Limited English Proficient students get ahead by holding schools accountable for making sure these students complete school" (Zehr, 2008).

Reading Proficiency and ELLs

Becoming proficient readers who not only decode but also understand what they are reading is a crucial goal for young English-language learner students, and a sight word vocabulary that can be used in fluent reading is an important component of this proficiency. (Helman and Burns, 2008).

A crucial part of literacy instruction is the explicit teaching of sight words (Helman and Burns, 2008). Sight words are words that are integral to text comprehension and appear frequently in sentences. These are also words that do not decode according to phonics rules (ex. *through, the, was*). Mastering sight words aid in a student's reading fluency.

An increase in reading fluency correlates with an increase in comprehension. A great deal of research has been done linking reading fluency with comprehension. Matthew Quirk and Sophie Beem (2012) conducted an analysis of the literature regarding the connection between fluency and comprehension for English Language Learners. According to Quirk and Beem, the link between reading fluency and comprehension has been extensively researched. LaBerge and Samuels (1974) concluded that, "skilled reading involves the reallocation of attentional capacity from lower level word identification processing to more demanding higher order reading skills, including comprehension" (as cited in Quirk and Beem, 2012). Think of talking on a mobile phone while driving as a metaphor to help explain this phenomenon. When one is driving without talking on a mobile phone, all of one's cognitive processing can go directly to driving the car. When one picks up the phone, one's attention is split, and many studies have shown that drivers talking on mobile phones are more susceptible to accidents, than

drivers who are solely attending to driving the car. Readers who are splitting their attention between comprehending what they are reading, and decoding, lose some of their ability to comprehend what they are reading because they cannot devote the necessary attention to accomplish that comprehension task. This is especially true of students who devote large amounts of energy towards decoding. Rupley, Willson, and Nichols (1998) explain how this level of fluency can affect comprehension:

> Slower rates of word recognition would directly affect comprehension and inhibit chunking of information into meaningful information units. Thus, both comprehension of new information and expansion and elaboration of existing knowledge would be affected by children's speed and accuracy in processing information. (as cited in Paul van den Broek, et al 2003).

Neddenriep, Fritz and Carrier (2011) studied the effect of a fluency intervention with five fourth grade students. These students were selected by their teachers for having a "frustration" reading fluency level, meaning the students struggled with decoding and word recognition to the point where the text was unreadable without support. Before the intervention was implemented, students' comprehension was measured by several standardized assessments. After the fluency intervention (2 days a week for 15 weeks), 4 of the 5 students showed improvement in their words per minute reading. They also showed improvement in their comprehension (Neddenriep, et al 2011).

Schwanenflugel, and colleagues (2006) crafted a study to measure the impact that fluent word reading skills had on comprehension. Their study was comprised of first, second, and third grade students, with each class represented by just under 100 participants. They noted that, "for all grades, there was a significant correlation between

reading fluency and reading comprehension (p<.05) indicating that, as children become more fluent readers, they also comprehend what they read better" (Schwanenflugel, P. J., et al. 2006). The researchers noted that as the children progressed through the grades first to third , their fluency grew. They noted that each child who measured high in reading fluency, also had a higher measure of reading comprehension. This study continues to support the view that as children grow in their fluency, the cognitive energy required to comprehend texts is freed up, allowing for an easier time comprehending texts (Schwanenflugel, P. J., et al. 2006).

Swankweiler, Donald et al. (2009) conducted a study measuring the relationship between fluency and comprehension. They were particularly interested in which factors made it most difficult for young readers to comprehend what they read. The sample size was N=361, children ages 7.5 – 9.5. They noted a high correlation between non-word reading (made up words that can be read using phonological knowledge), word reading, and comprehension. Basically, if a child had difficulty decoding, it was more likely that they would have comprehension issues as well. The study concluded that one of the factors very relevant in whether or not a child can comprehend what he/she reads is decoding.

However, Reschly et al. 2009 notes that there are not many studies that have been conducted, where a subset of the population of the study has been substantially LEP (as cited in Quirk and Beem, 2012). This makes it slightly suspect to profess definitively that the research conclusions about fluency and comprehension hold true for LEP students.

Fluency, Comprehension, and ELLs

Though there have not been many, studies do exist that examine the relationship

between fluency and ELLs. The results are mixed. Wiley and Deno (2005) studied the

correlation between reading fluency, Maze Measurement, and comprehension with 3rd and

5th grade non-ELLs and ELLs. They found that reading fluency was a moderate predictor

of achievement on the Minnesota Comprehensive Assessment for ELLs, but less so for

non-ELLs students. As students progress through school, the researchers suggest a more

holistic approach to predicting students achievement on the MCA. They suggest using

reading fluency and the Maze Measurement to predict student outcomes (Wiley and

Deno, 2005).

Conversely, Klein and Jimerson (2005) found that reading fluency as a predictor

of comprehension as measured by the Stanford Achievement Test 9th Edition (SAT 9)

may "result in systematic prediction errors" (Klein & Jimerson, 2005). There are two

significant errors they found possible. First, using reading fluency as a predictor of

comprehension may lead a school to under identify ELLs who need additional services.

When it comes time for the SAT 9 test, the scores may suggest that they need reading

intervention, when the reading fluency test did not. Also, the study suggests that students

who speak English at home may be over identified based solely on reading fluency.

When these students take the SAT 9 test, their scores may suggest they need no

intervention, even though the reading fluency test did (Klein & Jimerson, 2005).

Earlier in this review, Quirk and Beem (2012) provided the catalyst for the initial

research review of fluency as it relates to comprehension. Klein and Jimerson (2005)

suggested that educators use caution when using oral fluency as a sole predictor of

comprehension, especially when deciding on interventions. Quirk and Beem (2012) advise roughly the same caution, through the conclusions they drew from their research. They studied ELLs in 2ⁿᵈ, 3ʳᵈ, and 5ᵗʰ grade. Spanish was the primary language that classified these ELLs. The study concluded that half of their sample showed average or better on fluency measures, correlated with slightly to significantly below average comprehension. They call this group of students "word callers." They suggest that word callers increase in number as students progress through the grades. However, the researchers cite Hamilton and Shinn (2003) and Meisinger et al., (2009), in that there is not a statistically significant number of word callers in lower elementary grades (K-2).

The National Institute of Child Health and Development (2005) notes that reading fluency does not have a single definition, but that there is some agreement that reading fluency includes the ability to read accurately and quickly (as cited in Schwanenflugel et al. (2006). As stated above by Helman and Burns (2012), sight word vocabulary is an important component of fluent reading. This is especially true with sight words that do not follow phonemic rules like the word *through* for example. But when children struggle to learn sight words during whole class instruction and independent practice, what can a teacher do to help them? There are many interventions to chose from, so where does one begin? A good starting place may be with strategies that help students memorize sight words, especially those that do not follow phonemic rules. The more words a student memorizes, the more easily they are able to read and thus focus on the comprehension of texts as opposed to the decoding of words. Flash card drills are one such method students can use to memorize sight words.

The Behavior of Reading

Goldiamond and Dyrud (1966) suggest that reading can be viewed from a behavioral perspective, as an operant behavior (as cited in Sara Kupzyk, Edward J. Daly, III, and Melisa N. Andersen, 2011). Through the proper reinforcement structure, words can be learned from a stimulus control paradigm. These authors saw the teaching of reading as a simple set of stimuli (a word on a flashcard), behaviors (student reads the word), and reinforcement (instructor responds constructively, either with praise for performance or some corrective action). This is particularly relevant where sight words are concerned. These words do not follow the phonemic rules of English, and therefore cannot be decoded using a student's prior decoding knowledge. These words must be memorized early, so that they can be used in aiding comprehension. There is more than one way in which flash cards are organized. Different variations have evolved over the years, to improve the efficacy of the model. (Kupzyk, et al, 2011).

Flash Card Drill Methods for Word Recognition

According to Nist and Joseph (2008), when most think of flash cards, the Traditional Drill method (TD) comes to mind. In TD there are four components. First, students are shown a card, told what the card says, and then asked to repeat it. Second, all the cards in the deck are unknown items to the student. Third, when all the cards are told to the student, they are shuffled in a random order, and then presented to the student again for repetitive practice. Fourth, students are given immediate feedback on whether or not they said the word correctly.

In 1977 Neef, Iwata, and Page altered the TD method. Their research was among the first to suggest that all the words in the drill method should not be unknown. They

began to intersperse known items, with unknown items. The ratio they used was 5:5 known to unknown words. Their finding suggested that interspersing known items with unknown items helped students remember unknown items better than if all items were unknown. Subsequently, later researchers experimented with different known to unknown ratios to test the effectiveness of the drill method to under various conditions. Gickling & Havertape, 1981; Gickling & Rosenfield, 1995 proposed ranges of percent known and percent unknown words. Specifically, Gickling suggested that 7:8.5 known items be interspersed with 1.3:3 unknown items to aid in the word acquisition (Gickling & Havertape, 1981; Gickling & Rosenfield, 1995). According to researchers Burns, MacQuarrie, and Tucker (2002) these ratios not only resulted in higher rates of task comprehension, but also higher rates of task completion and higher rates of focus on task (Burns, McQuarrie, and Tucker, 2002). Regardless, subsequent research demonstrated that no one ration has "consistent superiority over others" and thus, gave opportunities for other drill methods to develop (Burns, et al. 2002). Based off of this research, two other methods of flash card drill instruction altered the ratio of known words to unknown words, in an attempt to find a ratio that achieved the most promising results.

A Different Approach to Flash Card Drill Method

Drill Sandwich (DS), and Incremental Rehearsal (IR) (as cited in Burns et al. 2002) are two methods that achieve promising results. Drill Sandwich was developed by Coulter and Coulter in 1989. The ratio of unknown to known words is 3:7. When new words are introduced, they are introduced randomly with known words. For example, the instructor would show students the cards, and explicitly tell them the unknown words. Then, the instructor will intersperse, in no particular order, the known words in with the

unknown words. The student then goes through the set of cards three times. The student receives immediate feedback from the instructor (Burns et al. 2002).

Incremental Rehearsal was developed by Tucker in 1988. The ratio of known to unknown words is 9:1. When new words are introduced, they are introduced one at a time. The new word is paired with nine known words, and the student follows a progression 9 times before a new unknown words is added. It is important to note that the known words were student selected by prompting students to write down nine words they felt they knew very well. Students were then asked to pronounce each self-selected word to verify actual fluency and knowledge of the word (Burns et al. 2002). This ensures that students know the words and thus can respond fluidly when prompted during practice and focus on the unknown word introduced in the set.

An additional distinguishing factor between IR and other drill methods is the time required. Administering the IR method required approximately 10 minutes as opposed to TD, which required 20 to 30 minutes and DS, which required 10 to 15 minutes (Burns et al. 2002).

In the 2008 Nist and Joseph study mentioned earlier, they concerned themselves with answering several questions regarding three different types of flash card drill methods. The methods were Incremental Rehearsal, interspersal, and traditional drill. (1) They wanted to know which method was most effective and efficient in regards to memorizing and retaining words from one day to the following day. (2) They also wanted to know which of the three methods was most effective and efficient in regards to maintaining the memorization and retention days beyond learning the words. (3) Finally,

they wanted to know which of the three methods lent itself the highest generalization to different contexts, such as sentence reading.

The participants in their study were four female and two male first grade students. The students attended an urban elementary school in Ohio. The students were eligible for free and reduced lunch, were not receiving any special education services, and were identified by their teacher as being struggling readers. The students specifically struggled with, "consonant-vowel-consonant (CVC), consonant-vowel-consonant- vowel (CVCV), consonant-double vowel- consonant (CVVC), and consonant-vowel- double consonant (CVCC)" (Nist and Joseph, 2008).

Two hundred words were chosen at random from story books and high frequency words lists from the students classrooms. The baseline assessment consisted of showing all the chosen words written on flashcards on two separate occasions. Of all the words tested, 36 unknown words were assigned to the instructional conditions for each child. Nine words appeared from each of the consonant and vowel patterns from above (Nist and Joseph, 2008).

The traditional drill instructional condition consisted of,

the instructor presented the [6] flashcards and pronounced each word aloud one time and asked the student to repeat the word before proceeding to the next word. The instructor presented the flashcards again and asked the student to read the words orally. (Nist and Joseph, 2008)

Then, the procedure above was repeated a total of eight more times, with the cards being shuffled at the end of each time to make the presentation of the words random (Nist and Joseph, 2008).

The interspsal instructional condition consisted of an identical format as the traditional drill condition, with a few changes. First, the order of known words (K) and unknown words (U) was "K-U-U-U-K-U-U-U-K". Second, incorrect responses were followed by a correction from the teacher to pronounce the words accurately. (Nist and Joseph, 2008)

Finally, the incremental rehearsal instructional condition consisted of an identical format as the previous two, with a few changes. First, the number of words flashed during the drill was ten instead of only six (traditional) and nine (interspersal). Second, the order of known words to unknown words was, "Ul, KI, Ul, Kl, K2, Ul, Kl. K2, K3,UI. Kl, K2, K3, K4, Ul, Kl, K2, K3. K4, K5, Ul, Kl, K2, K3, K4, K5, Ul, Kl, K2, K3, K4, K5, K6. K7, Ul, Kl, K2. K3, K4, K5, K6. K7, K8, Ul. Kl, K2, K3, K4. K5, K6, K7, K8, K9." Once this entire cycle was complete, the ninth known word was removed, and a second unknown word preceded the first known word. Then the cycle was repeated with two unknown words and eight known words (Nist and Joseph, 2008).

Regarding the question which method was most effective and efficient in regards to memorizing and retaining words from one day to the following day, the data showed that the Incremental Rehearsal was most successful in effectiveness, but not in efficiency. Regarding the question which of the three methods was most effective and efficient in regards to maintaining the memorization and retention days beyond learning the words, the data showed that the Incremental Rehearsal was most successful. Regarding the question which of the three methods lent itself the highest generalization to different contexts, such as sentence reading, the data showed that the Incremental Rehearsal was most successful (Nist and Joseph, 2008).

Tier I instruction: Whole Group

When most people think about (or remember) what goes on inside a classroom, they are likely thinking about Tier I, or whole group instruction. The *Introduction to Tier III reading Model* (2005) outlines the parameters of Tier I reading instruction. Tier I instruction is

the 'core' curricular and instructional reading programs and strategies in the general education setting, including ongoing professional development and assessment three times per year to determine whether students are meeting benchmarks. Tier I focuses on lessons for the whole group in a classroom.

Wanzek, Roberts, Al Otaiba, and Kent (2014) conducted a study that examined the amount of time kindergarteners were actively engaged in reading during Tier I classroom time. The study was conducted because of a correlation between Tier I and Tier II instruction suggested by the researchers. They state that:

Response to intervention (RTI) models focus on a student's core instruction in the general education classroom as one element for preventing reading difficulties and identifying students with a learning disability. (Wanzek, et al 2014)

The researchers were interested in the correlation between the amount of time a student spent engaged in reading during Tier I instruction, and the reading achievement attained by the end of kindergarten. The study used a sample of kindergarten students from a larger study, "investigating approaches for defining, classifying, and preventing learning disabilities in reading" (Al Otaiba et al. 2011 as cited in Wanzek, et al 2014).

The sample of students at risk of reading difficulties included 69 (63%) males and 40 (37%) females with 69.7% Black, 19.3% Caucasian, 5.5% multiracial, and

5.5% Other ethnicities (American Indian, Asian, unknown). Approximately 85% of the students in the sample were enrolled in the free or reduced- price lunch programs, and 25% had an identified disability (i.e., speech impairment, language impairment, developmental delay, specific learning disabilities, other health impaired). (Wanzek, et al 2014)

The students were observed twice during the school year. They were recorded using cameras during the Tier I instruction in both the fall and spring. The results of the study showed that students at risk of reading difficulties spent less than 1 minute actually reading print during the whole group lesson. The study also noted that the students were engaged in instruction that was related to reading, such as phonological awareness, phonics, and word recognition instruction, but were not getting much opportunity to practice these skills. The researchers recommended that students get more time during their Tier I instruction, with actual practice reading print. The researchers note however, that it is difficult to achieve this considering the needs of each individual student, and the difficult meeting those individual needs during a whole group lesson. The main implication of this study as noted by the researchers is that:

The key components of reading instruction, including phonological awareness, phonics and word recognition, fluency, oral language/vocabulary, and comprehension, must include explicit, systematic instruction that also allows ample practice and application to print. (Wanzek, et al 2014)

Impact of Instruction after Tier I: Tier II Small group

One way in which students can get more practice and application, is when they are part of a Tier II small group. The *Introduction to Tier III Reading Model* (2005) outlines the parameters of tier II reading instruction. Tier II reading instruction is, "programs, strategies, and procedures designed and employed to *enhance and support* Tier I" (*Introduction to Tier III reading Model, 2005*). Tier II's focus is on a small group (1:1 to 1:5) of students, who are showing a lack of achievement as demonstrated by data gathered from Tier I instruction. The instruction in Tier II is described as, "additional attention, focus, and support; [with] additional opportunities to practice embedded throughout the school day" (*Introduction to Tier III Reading Model,* 2005) Unlike Tier I, Tier II progress is monitored twice a month. This ensures that students are on track to meeting the goals of the Tier II lessons.

In 2004, Denton, Anthony, Parker, and Hasbrouk conducted a study to determine whether or not two different reading intervention programs, conducted in group ratios of 1:1 – 1:4, were effective for primarily Spanish speaking ELL students. They drew on research that had been conducted using native English speakers, and programs that had shown effectiveness with those students. They cite that there is a "preponderance of evidence of the effectiveness of supplemental reading instruction in enhancing the reading development of struggling native English readers," as their motivation for hypothesizing that, "this approach would likewise benefit children who were learning to read English as their second language" (Denton, et al. 2004). The reading elements they focused on were decoding and comprehension. At the conclusion of the study, the researchers found that one of the intervention program's students were outperforming

their non-tutored peers in "context free word reading." They also noted that the progress

the students made was quite promising because of the short time period in which the

students made the progress – 10 weeks, three times a week for 40 minutes. The other

tutoring program did not produce the same promising results as the latter. However, the

researchers noted that there may have been some confounding variables, and suggested

changes to their method for further study.

In 2005, Gunn, Smolkowski, Bigland, Black, and Blair did a study on the effects

of a two year supplemental reading program. They cited well established research

(Cunningham & Stanovich, 1998; Juel, 1988; Slavin et al. 1996) regarding, "the long

term impact of reading failure on school success," as well as the established relationship

between "learning to read in the primary grades, and development of reading ability

throughout elementary school" (Gunn et al. 2005). Their subjects were kindergarten

students through 3rd grade students, Spanish speaking students and English only speaking

students. The control group received no intervention, and remained in whole group

instruction in the classrooms where all the students were drawn from. The intervention

group met with instructors in small groups of up to three students. Measures were taken

over the course of the 2 years, as well as at the end of the 2 years. The results after two

years were very promising for all intervention participants. Participants in the

intervention showed a significant positive difference as compared to their matched

control group. It was shown that the Hispanic students benefited as much as if not more

than the English only participants, who also benefited from the small group intervention.

The researchers also noted that years later, the students who had received the treatment

were still outperforming those who had not:

In 2000, Lou, Abrami and Spence conducted a meta-analysis with the purpose of ,
develop[ing] a parsimonious model of factors that account for the significant
variability in the findings of the effects of within class groupings on student
achievement." (pg. 101)

The variability they spoke about was centered around the many studies that showed a
positive relationship between students involved in small group learning, and their student
achievement, and an inconsistency with, "the magnitude of effects that appeared both
across and within reviews." The results of their analysis showed that there was, "a small
but significant positive effect of small group instruction on student achievement." Their
study also highlighted the factors that they believed contributed most to this achievement.
Those factors include:

(a) teachers in small group conditions were provided with more or different
training than those in whole class condition, (b) grouping was based on ability as
well as other considerations such as gender or group cohesiveness, and (c)
cooperative learning was the method of instruction... (pg. 108)

Impact of Instruction after Tier II: Tier III One on One

The *Introduction to Tier III Reading Model (*2005) outlines the parameters of tier
III reading instruction. Tier II reading instruction is, "specifically designed and
customized reading instruction that is extended beyond the time allocated in Tier I and
Tier II" (*Introduction to Tier III reading Model, 2005*). Tier III's focus is on a small
group (1:1 to 1:3) of students, who are showing a lack of achievement as demonstrated by
data gathered from Tier I and Tier II instruction. The instruction in Tier III is described
as, "carefully designed and implemented explicit, systematic instruction, [with] fidelity

and implementation carefully maintained" (*Introduction to Tier III reading Model, 2005*). Like Tier II, Tier III progress is monitored twice a month. This ensures that students are on track to meeting the goals of the Tier III lessons.

The benefits of one on one instruction are well documented. In 1994, Pinnel, Lyons, Deford, Bryk and Seltzer conducted a study examining the efficacy of a reading intervention program called Reading Recovery (RR). They were curious about the program in a number of ways. Was the ratio of student to teacher a strong factor in whether or not an intervention was successful? In essence, did it matter what one-on-one program was used, would they all be successful simply because the 1:1 ration was present. Would teachers trained to use the RR program be able to produce similar results if they did the instruction in a small group ratio, rather than a one-on-one design.

For their study, they used a total of 403 first grade students, from two rural, two suburban, and six urban school districts. All students performed below expectations on the district administered standardized tests. The students were randomly selected into their treatment groups. The intervention was administered over the course of one year. When the study concluded, they were able to answer several questions. They noted that the RR program demonstrated strong effects on the measures they had used to evaluate the students learning. They also noted that it was the only program that was able to produce a lasting effect on the students – the effects of the program were still evident after a summer vacation. Their results pointed out that a 1:1 ratio is not simply the solution, but that the instruction during that time is a factor. However, the teachers who performed the RR intervention to groups outside the 1:1 ratio were not as successful as

the teachers who performed the intervention in a 1:1 ratio. (Pinnel, Lyons, Deford, Bryk and Seltzer, 1994).

More research on whether or not instruction is effective in a 1:1 setting comes from Schwartz, Schmitt and Lose (2012). In 2012, their questions were as follows:

1. Do literacy outcomes differ for highly trained teachers working with at-risk students individually or in small groups?

2. Do literacy outcomes differ for highly trained teachers depending on group size?

3. What is the pattern of literacy outcomes as teacher student ratio varies.

The study included 85 Reading Recovery teachers and 170 students in first grade designated by their teachers as at risk. The students were randomly assigned to either the 1:1, 1:2, 1:3 or 1:5 groups. The intervention lasted for 20 weeks, with daily 30 minute lessons. At the conclusion of the study, the data showed that the 1:1 group had outperformed all the other groups on 8 of the 9 measures. (Schwartz, Schmitt and Lose, 2012)

Conclusion

This chapter introduced a concern of note regarding the education of a minority population in our school system in the United States: the ELL. While they generally do not perform well on standardized tests, research was presented that suggests that those tests aren't great measures of overall knowledge and skills for ELLs. However, standardized tests scores do illuminate a lack of reading ability among ELL students that needs to be addressed. This chapter discussed the importance of reading proficiency, and the link between fluency and comprehension. Research was cited regarding the nature of

reading as an operant behavior suggests many ways in which to teach reading. For struggling readers flash cards can be a possible solution to difficulties with word recognition. Specifically, Incremental Rehearsal is a method with research that suggests it is an efficient method for teaching struggling readers. At the end of this chapter, the different Tiers of instruction were explored.

Looking Ahead to Chapter Three

Chapter Three will explore designing a curriculum that may help struggling readers learn and retain a sight word vocabulary. The curriculum created will hopefully answer the question: *How can Incremental Rehearsal be used to facilitate successful sight word acquisition English language learners to improve their sight word reading ability?*

CHAPTER THREE

CURRICULUM DESIGN

Introduction

The purpose of this chapter is to design a flash card drill method curriculum for ELLs in grades K-3 to ensure that they develop a strong sight word vocabulary. This curriculum is designed as a tier 3 intervention, for students who are struggling to memorize common primary school sight words. *How can Incremental Rehearsal be used to facilitate successful sight word acquisition for English language learners to improve their sight word reading ability?*

Setting and Current Curriculum

This curriculum design takes place in a Title I public school in the Midwest. In this school, approximately 58% were Hispanic, 30% were Black, 6% were American Indian/ Alaskan Native, 4% White, and 2% Asian/Pacific Islander. Approximately 72% were ELL, and 94% qualified for free and reduced lunch. As documented by the state, 16.2% were proficient in reading in 2015, with a state average of 60% in 2015 (Minnesota Department of Education, 2015).

In the K-3 classrooms in this school, between 90 and 120 minutes are devoted to literacy. In Kindergarten, the literacy block consists of approximately 130 minutes. Fifteen minutes are spent working with the teacher in a small group. Forty five minutes

are spent doing independent work (reading to self, listening to reading, reading with a buddy). Thirty minutes are spent on direct phonics instruction. Finally, 20 minutes are spent doing a read aloud, where the teacher reads to the whole class.

In first grade, the literacy block consists of approximately 110 minutes. Direct phonics instruction consists of 30 minutes. Guided reading in small groups consists of 20 minutes. Fourty minutes are spent doing independent activities (read to self, listen to reading, read with a buddy, word work). Finally, 20 minutes are spent doing a read aloud.

In second grade, the literacy block consists of approximately 140 minutes. Direct phonics instruction happens for 40 minutes. Read aloud happens for 40 minutes. Guided groups happen for 20 minutes. Independent activities (read to self, listen to reading, read with a buddy, word work) happen for 45 minutes.

In third grade, the literacy block is divided into blocks of 20 minutes. Students spend between 90 and 120 minutes engaging in the following activities: Whole group reading with the teacher, small group reading with the teacher, independent reading, independent listening to reading, independent word work, and writing (10 – 15 minute mini lesson followed by 15 minutes of independent writing).

In all grades, the small groups are created using a tool called Strategic Teaching and Evaluation of Progress (STEP). This tool evaluates a child's reading ability using many different reading metrics. Each tests consists of a student reading a story, as well as taking a spelling test. During the reading of the story, a teacher takes a running record, or records all the correct and incorrect words read by the student. When the child has finished reading, the teacher then asks a series of factual recall, inferential, and critical

thinking questions. The test is then scored, to determine the child's instructional reading level. (Strategic Teaching and Evaluation of Progress, 2013).

Participants

In all grades, teachers must differentiate their instruction because not all students arrive in each grade at the same academic level. At the school where this curriculum is being designed, all students receive tier I instruction. As long as a child is making adequate progress as defined by school, district, and state standards, and they are not more than a grade level behind, the child receives only Tier I instruction. If a student has an IEP, or is classified as an ELL student, they automatically get some form of Tier II and Tier III instruction.

Tier II instruction at the school where this curriculum is being designed, is defined as an intervention. An intervention is added time with the subject matter, generally in a small group of 6 or less students. Students who are receiving Tier II interventions have set goals, and their progress towards those goals are monitored weekly. Students have 6 weeks to successfully reach their goals in a Tier II intervention before they stop receiving the tier two intervention support. If a student is unable to reach their goals, the Tier II intervention is considered unsuccessful, and another Tier II intervention must be attempted. If the student is able to reach the goals of the second Tier II intervention, they no longer receive the tier two support. If they are unable to reach their goals, then they can be moved to a Tier III intervention.

At the school site where this curriculum is being developed, Tier III interventions can consist of either more small group work, or one-on-one instruction. Tier III interventions are also six weeks long, with set goals, and progress monitoring each week

towards successful attainment of set goals. If the goals are achieved in the first Tier III intervention, then the Tier III support is no longer needed. If the goals are not achieved in the first Tier III intervention, a second Tier III intervention is attempted. If this second Tier III intervention is successful, the child no longer receives Tier III support. If this second Tier III intervention is not successful, the child will be considered for Special Education assessment. The curriculum of this capstone is being created for this Tier III level support. Students who are receiving Tier III services and show a lack of grade level benchmark progress in fluency are ideal candidates for this curriculum.

Relevance and Rationale for the Curriculum Design

This curriculum is being designed to meet the requirements of Common Core Reading and Language Arts Foundational Skills K-5 Benchmarks as adopted by the state of Minnesota in 2010. Specifically, this curriculum addresses the following standard:

0.3.0.3., 1.3.0.3., 2.3.0.3, 3.3.0.3, Know and apply grade level phonics and word analysis skills in decoding words.

Kindergarten, subsection c: Read common high frequency words by sight (e. g., *the, of, to, you, she, my, is, are, do, does).*

First grade, subsection g: recognize and read grade appropriate irregularly spelled words, **including high frequency words.**

Second grade, subsection f: recognize and read grade appropriate irregularly spelled words, **including high frequency words.**

Third grade, subsection d: recognize and read grade appropriate irregularly spelled words, **including high frequency words.**

The research conducted in Chapter Two provided the impetus for the

methodology discussed here in Chapter Three. In Chapter Two, the case was made that

sight word vocabulary is a necessary component in the fluent readers toolbox. Helman

and Burns 2008 stated:

>Becoming proficient readers who not only decode but also
>
>understand what they are reading is a crucial goal for young English-
>
>language learner students, and a sight word vocabulary that can be used in
>
>fluent reading is an important component of this proficiency.

Without a strong sight word vocabulary, students will spend too much time

decoding, taking away from their ability to comprehend what they are reading. LaBerge

and Samuels (1974) found this by concluded that, "skilled reading involves the

reallocation of attentional capacity from lower level word identification processing to

more demanding higher order reading skills, including comprehension" (as cited in Quirk

and Beem, 2012). Rupley, Willson, and Nichols (1998) further explain how a deficient

sight word vocabulary leading to low reading fluency can affect comprehension:

>Slower rates of word recognition would directly affect comprehension
>
>and inhibit chunking of information into meaningful information units.
>
>Thus, both comprehension of new information and expansion and
>
>elaboration of existing knowledge would be affected by children's
>
>speed and accuracy in processing information (as cited in Paul van den
>
>Broek, Christine Espin, and Stanley L. Deno, 2003).

Chapter Two also explored a method used to help students that are struggling readers

acquire a sight word vocabulary. Goldiamond and Dyrud (1966) suggest that reading can

be viewed from a behavioral perspective, as an operant behavior (as cited in Sara Kupzyk, Edward J. Daly, III, and Melisa N. Andersen, 2011). Through the proper reinforcement structure, words can be learned from a stimulus control paradigm. These authors saw the teaching of reading as a simple set of stimuli (a word on a flashcard), behaviors (student reads the word), and reinforcement (instructor responds constructively, either with praise for performance or some corrective action). This is particularly relevant where sight words are concerned. The stimulus control paradigm explored in this capstone is Incremental Rehearsal.

Chapter Two concluded by exploring the impact of one to one instruction. Pinnel, Lyons, Deford, Bryk and Seltzer (1994) conducted a study analyzing the affect of the teacher to student ratio. They concluded that the teachers in their study who used a 1:1 ration of student to teacher, outperformed those teachers using a higher ration of students to teacher. Schwartz, Schmitt and Lose (2012) also noted in a study similar to the aforementioned, that a 1:1 ratio of student to teacher performed better than a higher ratio of students to teacher.

The Curriculum Design and Methods

Each lesson will consist of a set of six steps.

Step 1. The lesson will begin with a quick check for retention of the previous days new (taught) words.

Step 2. Next, the teacher will teach an unknown word to the student by 1.) stating the word, 2.) using the word in a sentence, 3.) stating the word again, 4.) having the student read the word.

Step 3. Then, the teacher will employ the Incremental Rehearsal ratio of 1 unknown word to 9 known words, as outlined in Appendix A.

Step 4. After that, the teacher will repeat step two with the second unknown word. Step 5. Then, the teacher will repeat step 3 with the first unknown word as the second word in the deck, the second unknown word as the first word in the deck, and 8 known words.

Step 6. The teacher will record which unknown words were taught (in Appendix C), and send the student back to their work.

Before the steps listed above can begin, students will be given a diagnostic assessment. The diagnostic test will consist of the entire Dolch Sight Words list (see appendix B). Students will be shown each of the Dolgh Sight Words on a flash card. Students will have three seconds in which to say the word on the flash card. Any words that a student says within three seconds will be labeled a "known" word. Any sight word that a student fails to say will be labeled an "unknown" word. Students will be given this diagnostic assessment three times in the first week, to establish a strong data set of known and unknown words.

Once a baseline has been established of known and unknown words students will go through this six step process with their teacher, one on one, three times a week. The process will repeat over and over again as unknown words slowly become known words. The process will continue until all the Dolch Sight Words have been learned. A tracking sheet (Appendix C) will be used to document unknown words becoming known words. When there are no more unknown words, the diagnostic assessment (now the summative assessment) will be given again.

Summary

In summation, this chapter provided the rationale and relevance of the curriculum design. It also provided the demographic information on the ideal student for use with this curriculum. Finally, it illuminated the curriculum design and methods. The following chapter will provide the results and reasoning for the curriculum.

CHAPTER FOUR

RESULTS

Introduction

This chapter will analyze the curricular material following the methods stated in

chapter three. This curriculum was developed with the insight learned from the literature

review in chapter two, and its methods are thus supported by the research. The

breakdown of the curricular components will be observed here. In this chapter, the

aforementioned support for the choices made in designing the curriculum will be

revisited, and used to further justify the Incremental Rehearsal approach. *How can*

Incremental Rehearsal be used to facilitate successful sight word acquisition for English

language learners to improve their sight word reading ability?

Outline of Curriculum Components

This curriculum is organized into three main components that are part of a

curricular script (see appendix D). The first component is comprised of the baseline

assessment. The second component is comprised of all the words used in the baseline

assessment, with the words labeled unknown taught to students using the Incremental

Rehearsal ratio and procedure. This component also includes progress monitoring in the

form of formative assessments. Component three is comprised of a summative

assessment when no other unknown words remain.

Component One: Baseline Assessment

The baseline assessment consists of the Dolch Sight Word lists Pre-Primer, Primer, First, Second, and Third grade. There are 220 sight words in all (appendix B). These sight words will be written onto 3x5 white index cards. All these words will be shown to students participating in the curriculum, to determine which of them are known words, and which of them are unknown words. Known words will be read within three seconds. Unknown words will not be read, or will be read in excess of three seconds. The known and unknown words will be tracked in the curriculum tracker (appendix C).

Students will take this baseline assessment three times over the course of one week, to establish a valid baseline. Horner et al. 2005 in a study titled *The Use of Single-Subject Research to Identify Evidence-Based Practice in Special Education*, discuss what is necessary in order to have confidence in the effect of a treatment. They state that, "experimental control is demonstrated when the design documents three demonstrations of the experimental effect at three different points in time" (2005, pg. 168). Considering this conclusion, it follows then, that in order to have confidence in a baseline assessment, three demonstrations of that baseline assessment over time would provide the best baseline data. Therefore, if a student is unable to read a word within three seconds in any of the three tests, that word is considered an unknown word.

The interaction between the student and teacher during this component of the curriculum is detailed in the curriculum script (Appendix D). This component begins on Day 1. It starts with an introduction from the teacher to the student, regarding the reason behind the student participating in this one-on-one learning time. Research regarding the

importance of a sight word vocabulary (Helman and Burns 2008, LeBerge and Samuels 1974, Rupley, Willson and Nichols 1998) is shared with students in student friendly language. This sharing of research with the student is also used to invest the student in the practice they're going to engage in with the teacher. The goal of reading 220 words at the finish of the intervention is also introduced here.

Days 2-3 of the curriculum are identical to day 1, with the exception of the initial meeting and explanation from the teacher as to the purpose and structure of the curriculum.

Component Two: Incremental Rehearsal Sessions

A student will meet one-on-one with a teacher everyday for approximately 10 minutes. To see the detailed interaction between student and teacher during this component of the curriculum, refer to the curricular script (Appendix D).

As noted in the curricular script, the Incremental Rehearsal sessions begin on day 4. Incremental Rehearsal was chosen as the flash card drill method to use in this curriculum.

Chapter Two briefly outlined the history of flash card drill methods, beginning with the Traditional method as described by Nist and Joseph (2008). The Traditional method consisted of all unknown words randomly shown to students until all words were learned. Then, researchers like Neef, Iwata and Page 1977 began to alter the traditional method. They started to include known words mixed in with the unknown words. Following this research, other researchers like Gickling & Havertape, 1981; Gickling & Rosenfield, 1995, began to experiment with altering the ratios. Recently, according to

Burns et al 2002, new methods such as Incremental Rehearsal, have been created and tested, in search of the optimal ratio of known to unknown words.

Sashank Varma and Katrina B Schleisman 2014 state that, "prior research has established IR as the most effective and efficient flashcard technique." The research that they are citing comes from Bums, Dean, & Foley, 2004; MacQuarrie, Tucker, Bums, & Hart- man, 2002.

At the conclusion of day 4, when the incremental rehearsal script has been run, the student tracks their progress by putting a check mark on the words that they have learned. Benn et al. 2016 did a meta analysis of 138 studies of interventions concerned with the efficacy of progress monitoring on goal attainment. Their conclusion was that, "progress monitoring has a robust effect on goal attainment and constitutes a key component of effective self regulation." (Benn et al. 2006).

Component Three: Summative Assessment

The summative assessment consists of the Dolch Sight Word lists Pre-Primer, Primer, First, Second, and Third grade. There are 220 sight words in all (appendix B). These sight words will be written onto 3x5 white index cards. All these words will be shown to the student to determine which of them have been learned. Known words will be read within three seconds. Unknown words will not be read, or will be read in excess of three seconds. After the summative assessment has been complete, the teacher will determine if further session are needed. If not, the student has completed the curriculum.

To see the detailed interaction between student and teacher during this component of the curriculum, refer to the curricular script (appendix D).

Summary

In summary, this chapter provided the details and three components of this curriculum design while sharing the rationale of support from the Literature Review from Chapter Two. In the following chapter, this curriculum is analyzed regarding its limitations, implications, and future goals. Suggestions for future research and a plan for the curriculum's implementation are provided.

CHAPTER FIVE

SUMMARY

Introduction

In this chapter, I will reflect on the major learnings that emerged as a result of this research. I will accomplish this by reviewing the research of chapter two, as well as the curriculum writing process of chapters three and four. I will consider implications of this study. I will outline possible limitations of this study. I will make suggestions about future research. Finally, I will present my plan for using this curriculum. This chapter concludes this project regarding my research and curriculum development around the question: *How can Incremental Rehearsal be used to facilitate successful sight word acquisition for linguistically diverse students to improve their sight word reading ability?*

Major Learnings – Literature Review

What does it mean to read? On one hand, we might think of decoding or breaking a word down to its phonetic pieces. Each piece makes a sound. Those sounds put together form a word, and that word carries meaning. So, when I read a sentence, I am decoding each word in order to make meaning out of all the sounds in each word. This is usually how reading painstakingly starts. After many years of practice however, our minds start to memorize words, so that we are not decoding them any longer. None of the words in

this paragraph are words that I need to decode in order to make meaning of them. All these words have become memorized. My path to memorizing all these words started way back in school. For some children though, this memorization does not come easily. I cannot explain why this is, as I am uncertain.

Developing a functional sight word vocabulary is absolutely crucial if students are going to be successful on the measures we have, as a society, deemed fit and good. Students who struggle to read will absolutely struggle when it comes to passing their standardized tests. Many of my struggling readers are ELLs. Each year, the number of ELLs I have in my classroom grows, a trend we are seeing nationally as well. Over the years I have struggled at times to find effective ways to help them improve their reading. I can say that the developers of the Incremental Rehearsal flash card drill method have crafted a way that for many students, effectively helps them grow their sight word vocabulary.

Flash card methods have been around for many years, and have come in many variations. Through my research, the flash card drill method that rose to the top of the list in terms of efficacy (empirically proven) was Incremental Rehearsal. Whatever the neurological or psychological reasoning is behind the formula used in Incremental Rehearsal (one unknown word flashed repeatedly amongst nine known words in a particular order), it helps students who really struggle to learn sight words, learn them. Perhaps the researchers used something known about the brain to come up with the method? Or perhaps they simply experimented with different combinations of known words to unknown words, flashing them in this order and then in that order. Whatever the

case, they have created something that can be used in the classroom to improve the fluency of struggling readers by improving their sight word recognition.

Major Learnings – Curriculum Writing

While writing the curriculum, it took me some time to learn that more goes into the document than a simple formula or procedure. Curriculum is a complicated set of instructions requiring a great deal of thoughtful planning. Is there a model for curriculum that will be used, or will an entirely new model be created? What are the expectations of the teacher and student throughout the execution of the curriculum? Once the expectations are set, are they the correct expectations to produce the intended result of the curriculum? How much autonomy should be given to teachers so that the methods in the curriculum are not compromised and an unintended result occurs? These are just some of the many questions I found myself trying to answer as I constructed the curriculum from the research I did, the methods I read about, and my own knowledge and experience as an educator. Suffice it to say, this was a daunting task.

Implications of this study

In my classroom, and the classrooms of those who teach with me, we sometimes see a very frightening trend. Students will come to us one, two, three, four, even more years behind grade level in reading. We have all heard about the famous studies that have suggested that if students are not reading on grade level by third grade, they are significantly less likely to become proficient readers by the time they graduate high school. How does this happen? If you reference the state standards I listed for reading in chapter three, you can begin to see what is happening. Each year, it is expected that

students learn their respective grade's sight words. Thus, each year, a student is practicing and learning a new set of words, with the expectation that they have mastered the previous years words. If a student has not build a foundation of words from previous years, how can they be expected to master their current grade's words. And herein lies the benefit of the research that has been done about which I have written, and the curriculum I have created.

If students are not mastering the sight words of the grade they are in, or the grades the have previously been in, then they can participate in the intervention curriculum that I have designed. This curriculum could catch them up so that they are not falling behind in critical sight word vocabulary that adds to their fluency, which adds to their ability to comprehend what they are reading. Not all methods work for all students. However, if this method is proven to work with at least some students, then it should absolutely be included in a teacher's toolkit.

Limitations

Because this curriculum was created at the end of the school year, it has not yet been implemented in my classroom. As a result, the curriculum has yet to be tested, and has not been revised based on the feedback gained through the experience of its execution. In my future years as an educator, I will be testing and revising my curriculum. Over time, I hope to have an intervention that proves successful with some of my most struggling readers.

As outlined in the literature review, working one on one with students is a highly effective way to teach. The teacher can create lessons that are extremely student specific. In this way, I see two possible limitations with the curriculum as I have created it. First,

one on one instruction only allows for a small number of students to receive instruction in a day. If the classroom teacher is to implement this curriculum, there are only so many moments during the day where they could incorporate this. In my own literacy block for example, I likely would only be able to do this program with two of my students a day. If I had more than two learners who were struggling greatly with memorizing sight words, it would be difficult to find the time to work with all of them. Secondly, I have created a curriculum script which has no room for modification from the classroom teacher. While I think this is important for this curriculum (changing the ration of known words to unknown words would jeopardize the validity of Incremental Rehearsal), less autonomy may be stifling.

Suggestions for future research

One of the limitations of my study is that the intervention teacher uses a one on one format for this curriculum, in order to execute the flash card drill method Incremental Rehearsal. Considering how time consuming this is, and how few students can be met with in a day, I would suggest that research be done to digitize this drill method. If a program were created that could run this drill method, schools could use their technology to implement the intervention. Voice recognition software is becoming more and more precise as computers listen to our words and are able to understand each one. A study on whether or not voice recognition software is precise enough to understand a correct pronunciation of a word would be beneficial research for making this flash card drill method into a computer program.

Another of the limitations of this curriculum is built upon data that specifically comes from research done with Spanish speaking linguistically diverse students. Spanish

speaking linguistically diverse students make up the majority of linguistically diverse students in this country. However, as I stated in chapter two, other populations of linguistically diverse students are growing in the United States. Research should be done with these other groups as well, to determine if other interventions need be created with a non Spanish speaking language as a starting point.

Plan for Curriculum

It is my intention to use this curriculum in my classroom to help those students who are struggling with learning sight words. These students will have also participated in other interventions previous, and will have failed. It is my hope that this intervention proves beneficial to them. As I experiment and explore with this curriculum, I will be able to tailor it to my specific students needs, and hopefully find a way to make it flexible enough to be tailored to any students needs. If I find that it is successful, I will gladly share it with other teachers in my department.

APPENDIX

A

INCREMENTAL REHEARSAL FLASHCARD ORDER

Steps in Incremental Rehearsal

1. **Present first unknown word.**
   Present first known word.

2. **Present first unknown word.**
   Present first known word.
   Present second known word.

3. **Present first unknown word.**
   Present first known word.
   Present second known word.
   Present third known word.

4. **Present first unknown word.**
   Present first known word.
   Present second known word.
   Present third known word.
   Present fourth known word.

5. **Present first unknown word.**
   Present first known word.
   Present second known word.
   Present third known word.
   Present fourth known word.
   Present fifth known word.

6. **Present first unknown word.**
   Present first known word.
   Present second known word.
   Present third known word.
   Present fourth known word.
   Present fifth known word.
   Present sixth known word.

7. **Present first unknown word.**
   Present first known word.
   Present second known word.
   Present third known word.
   Present fourth known word.
   Present fifth known word.
   Present sixth known word.
   Present seventh known word.

8. **Present first unknown word.**
   Present first known word.
   Present second known word.
   Present third known word.
   Present fourth known word.
   Present fifth known word.
   Present sixth known word.
   Present seventh known word.
   Present eighth known word.

9. **Present first unknown word.**
   Present first known word.
   Present second known word.
   Present third known word.
   Present fourth known word
   Present fifth known word.
   Present sixth known word.
   Present seventh known word.
   Present eighth known word.
   Present ninth known word.

APPENDIX

B

DOLCH SIGHT WORDS LIST

Pre-primer		Primer		First		Second		Third	
a	not	all	on	after	of	always	pull	about	much
and	one	am	our	again	old	around	read	better	myself
away	play	are	out	an	once	because	right	bring	never
big	red	at	please	any	open	been	sing	carry	only
blue	run	ate	pretty	as	over	before	sit	clean	own
can	said	be	ran	ask	put	best	sleep	cut	pick
come	see	black	ride	by	round	both	tell	done	seven
down	the	brown	saw	could	some	buy	their	draw	shall
find	three	but	say	every	stop	call	these	drink	show
for	to	came	she	fly	take	cold	those	eight	six
funny	two	did	so	from	thank	does	upon	fall	small
go	up	do	soon	give	them	don't	us	far	start
help	we	eat	that	going	then	fast	use	full	ten
here	where	four	there	had	think	first	very	got	today
I	yello	get	they	has	walk	five	wash	grow	together
in	you	good	this	her	were	found	which	hold	try
is		have	too	him	when	gave	why	hot	warm
it		he	under	his		goes	wish	hurt	
jump		into	want	how		green	work	if	
little		like	was	just		its	would	keep	
look		must	well	know		made	write	kind	
make		new	went	let		many	your	laugh	
me		no	what	live		off		light	
my		now	white	may		or		long	

APPENDIX

C

TRACKING SHE

Unknown Word						Unknown Word						Unknown Word					
Date Known						Date Known						Date Known					
Unknown Word						Unknown Word						Unknown Word					
Date Known						Date Known						Date Known					

APPENDIX

D

INCREMENTAL REHEARSAL CURRICULUM SCRIPT

Day 1	Baseline Assessment
Materials	Dolch Sight Words tracking sheet, pen and pencil for marking incorrect responses Dolch Sight Words flash cards
Script/Directions	T = *teacher speaking* S = *student responding* Set up a space where you and the student can work one-on-one with minimal distraction. Make sure you have all the materials. Before the baseline assessment, share this information with the student. T: *Hi* (students name). *My name is* (your name), *and I am here to help you become an awesome reader! Do you know what it takes to be an awesome reader?* S: (any response is acceptable. Feel free to share your perspective on awesome reading) T: *And one of the most important parts of being an awesome reader is learning new words. Then, when you see them in books, you can quickly recognize them and read more easily. This is called Fluency. Fluency means that we read like we walk. Think about what your teacher sounds like when they read to you. You can be that good at read too, when you learn more words.* T: *Also, we have some silly words in English that break the rules, and are impossible to sound out. I want to help you memorize those words, so that you don't get stuck when reading. Do you know any of those words? For example, the word "the" is a silly word that we cannot sound out.* S: (any response will do). T: *Good! Now, before we get started, can you tell me about some of your goals at school? What things are you trying to learn and get really good at?* S: (any response is acceptable). T: *Those are great goals. I want us to set one more. I want you to be able to read 220 words easily!!! What do you think about that?*

	S: (any response is acceptable).
	If a student doesn't think it can be done, reassure them that by working together, and working hard, you can accomplish this task!
	T: *Before we can learn new words, we need to find out which words you already know. I'm going to show you a whole bunch of words, and I want you to do your best to read them. If you can't read one, don't worry, it's okay. Any words that you cannot read are words we get to learn together. Are you ready?*
	If student has questions feel free to stop and answer them.
	S: *I'm ready*
	T*: Ok, I'm going to start showing you words. Do your best to read each one.*
	Show student each word card. Make piles of the cards the student knows, and doesn't know. When the student is finished, mark down which words they knew, and which ones they didn't. Share how they did.
	T: *Great job! Out of all those words I showed you, you knew (XXX). That is awesome!! Ok, we'll do that again a different day. You're done!*

Day 2	Baseline Assessment
Materials	Dolch Sight Words tracking sheet pen and pencil for marking incorrect responses Dolch Sight Words flash cards
Script/Directions	*T = teacher speaking* *S = student responding* Set up a space where you and the student can work one on one with minimal distraction. Make sure you have all the materials. T: *Hi! Do you remember why we're working together?* S: (any response will do.) T: (reinforce responses that approximate increased fluency by memorizing sight words, and words that are hard to read because they break phonetic rules. Correct responses that are incorrect, or no response at all). *That's right, the more words you know, the faster of a reader you can be!! We're going to work on lots of words together, so that you can become an awesome reader!!!* T: *Remember last time we did this? You were able to read (xxx) words correctly!! Are you read to read all those words again?* If student has questions feel free to stop and answer them. S: *I'm ready* T*: Ok, I'm going to start showing you words. Do your best to read each one.* Show student each card. Make piles of the cards the student knows, and doesn't know. When the student is finished, mark down which words they knew, and which ones they didn't. T: *Great job! Out of all those words I showed you, you knew (XXX). That is awesome!! Ok, we'll do that again a different day. You're done!*

Day 3	Baseline Assessment
Materials	Dolch Sight Words tracking sheet pen and pencil for marking incorrect responses Dolch Sight Words flash cards
Script/Directions	*T = teacher speaking* *S = student responding* Set up a space where you and the student can work one on one with minimal distraction. Make sure you have all the materials. T: *H! Do you remember why we're working together?* S: (any response will do) T: (reinforce responses that approximate increased fluency by memorizing sight words, and words that are hard to read because they break phonetic rules). *That's right, the more words you know, the faster of a reader you can be!! We're going to work on lots of words together, so that you can become an awesome reader!!* T: *Remember last time we did this? You were able to read (xxx) words correctly!! Are you read to read all those words again?* If student has questions feel free to stop and answer them. S: *I'm ready* T*: Ok, I'm going to start showing you words. Do your best to read each one.* Show student each card. Make piles of the cards the student knows, and doesn't know. When the student is finished, mark down which words they knew, and which ones they didn't. T: *Great job! Ok, you can go back and sit down and we'll work on this again another day.*

Day 4	Incremental Rehearsal
Materials	Dolch Sight Words tracking sheet pen and pencil for marking correct and incorrect responses Dolch Sight Words flash cards
Script/Directions	*T = teacher speaking* *S = student responding* Set up a space where you and the student can work one on one with minimal distraction. Make sure you have all the materials. Before sitting down with the student, make sure the following tasks are complete: • Know which words you will be teaching to the student during the session. These will be two unknown words that the student was unable to read during the baseline assessment. • Have nine known words ready. These are words that the student was able to read within three seconds during the baseline assessment. Once you have sat down with the student, you may begin. T: *Hi (student's name), are you ready to learn some new words so that you can become a super fast reader?* S: *Yes!* T: *Okay, let's begin. I'm going to show you a new word, and I'm also going to show you some words that you're already good at. Practice makes perfect, so we're going to practice the new words and the words we're already good at, so we can be an awesome reader!!!* Have the first new word, followed by nine known words in the flashcard pile. Teach the first unknown word following these steps:

	• Show the flash card to the student and say: T: *This word says* ____ (ex. *high)* • Use the word in a sentence: T**:** (ex. *how high can you climb that tree?*) • State the word again, and ask the student to say it: T: *This word says* ___ *(ex. high). What does this word say?* S: *high* T: *Good! Let's keep going.* Now, you will show the flash cards for the student following this pattern, until the student has read all ten cards. Each time you present a card, the student response is to read the word within three seconds. **What if a student forgets the unknown word?** • You can prompt them by giving them the word again. **What if the student forgets a known word?** • You can prompt them by giving them the word, but now move the word into the unknown category on the Sight Words tracking sheet. This will now become an unknown word that you will teach on a different day.

Steps in Incremental Rehearsal

1. **Present first unknown word.**
   Present first known word.

2. **Present first unknown word.**
   Present first known word.
   Present second known word.

3. **Present first unknown word.**
   Present first known word.
   Present second known word.
   Present third known word.

4. **Present first unknown word.**
   Present first known word.
   Present second known word.
   Present third known word.
   Present fourth known word.

5. **Present first unknown word.**
   Present first known word.
   Present second known word.
   Present third known word.
   Present fourth known word.
   Present fifth known word.

6. **Present first unknown word.**
   Present first known word.
   Present second known word.
   Present third known word.
   Present fourth known word.
   Present fifth known word.
   Present sixth known word.

7. **Present first unknown word.**
   Present first known word.
   Present second known word.
   Present third known word.
   Present fourth known word.
   Present fifth known word.
   Present sixth known word.
   Present seventh known word.

8. **Present first unknown word.**
   Present first known word.
   Present second known word.
   Present third known word.
   Present fourth known word.
   Present fifth known word.
   Present sixth known word.
   Present seventh known word.
   Present eighth known word.

9. **Present first unknown word.**
   Present first known word.
   Present second known word.
   Present third known word.
   Present fourth known word
   Present fifth known word.
   Present sixth known word.
   Present seventh known word.
   Present eighth known word.
   Present ninth known word.

When the student has read all the words in the pile:

T: *Good job! Now before I teach you another word, can you shuffle these for me?*

Take out one known word, and the new word you taught, and have the student shuffle the remaining eight known words.

	Now, set the cards up so that the first card is the next unknown word being taught, the previous unknown word that you taught first during this session, followed by the eight known words.
	Teach the second unknown word following these steps:
	• Show the flash card to the student and say:
	T: *This word says* _____ (ex. *too)*
	• Use the word in a sentence:
	T**:** (ex. *I want to go to the park too)*
	• State the word again, and ask the student to say it:
	T: *This word says* ___ *(ex. too). What does this word say?*
	S: *too*
	T: *Good! Let's keep going.*
	Now, you will show the flash cards for the student following this pattern, until the student has read all ten cards.
	Each time you present a card, the student response is to read the word within three seconds.
	What if a student forgets the unknown word? • You can prompt them by giving them the word again.
	What if the student forgets a known word? • You can prompt them by giving them the word, but now move the word into the unknown category on the Sight Words tracking sheet. This will now become an unknown word that you will teach on a different day.
	When the student has read all ten cards:
	T: *Nice job learning those new words today!! Can you put a check in these boxes for me* (have student put a check mark in the boxes on the tracker for the day and words they learned that day*).*
	You can head back to your seat and we'll work on some more words next time!

Day 5 +	Incremental Rehearsal
Materials	Dolch Sight Words tracking sheet pen and pencil for marking correct and incorrect responses Dolch Sight Words flash cards
Script/Directions	*T = teacher speaking* *S = student responding* This day and all the following days in this intervention operate exactly as day 4, with this addition: Before teaching any new words, you will quickly assess whether or not the unknown words taught during the previous lesson, have in fact become known words (they are read within three seconds after being presented to the student). Put the two unknown words in a pile with eight known words. Shuffle the pile. Show the pile to the student. If they get the words correct, they are now known words. They should remain in the flash card pile of known words you use to teach unknown words for at least three more lessons. This will help solidify those new words. Remember, you will always have no more than 10 words in the deck, with the ratio of known to unknown words at 9:1. T: *Hi (student's name), are you ready to learn some new words so that you can become a super fast reader?* S: *Yes* T: *Ok great! Let's start by going over the words we learned last time, to make sure we still know them. They are shuffled into this pile of cards. I'm going to show you the cards, and I want you to read each one. Ready to start?* S: *Yes* Show all the cards at the student. If they were able to read the previously learned words from yesterday, celebrate with them! T: *Wow!! You remembered those new words we read from yesterday!! That means we get to learn two new words today!* If they were unable to read the previously learned words from

	yesterday, tell them that you'll work on those words again so that they can become memorized!
	T: *You read a lot of words correct, but there are still two that we need to practice. Let's* *practice them today!*
	Teach two new words following the procedure from day 4.
	Make sure to add the two words learned from the previous day, into the known words pile that you'll use today. When the student finishes, have them make another check next to the words learned the previous day, as well as today.
	Once words receive three consecutive checks, you can stop putting checks next to them. After three consecutive checks, they can be removed from the known pile used to learn unknown words. Feel free to bring them back into the known pile from time to time.

Day X	Summative Assessment
Materials	Dolch Sight Words tracking sheet pen and pencil for marking correct and incorrect responses Dolch Sight Words flash cards
Script/Directions	T = teacher speaking S = student responding This script is to be followed when all words have become known words, as noted by the tracking sheet. On this day, you will take all 220 words, and flash them at the student. A word continues to be a known word if it is read in three seconds or under. If the student is able to read all 220 words, they can be exited from the intervention (curriculum). If they miss words, you can continue day 5 with the unknown words. T: *Hi (student's name)! The day to see if we've met your goal of 220 is here!! Today, I'm going to show you all the words you've learned over the past weeks, to see if you know them all. Are you ready?!* S: *Yes* T: *Ok great! Here we go!* Flash all 220 words for the student. Make two piles, a known pile, and unknown pile. **If student passes all 220 words:** T: *WOW! Awesome job!! You are going to be such a fast reader!!! You can head back to your other work now!* **If student does not pass all 220 words:** T: *WOW! You got so many words right!! But, there are a few that you missed. Let's try and learn those words so that we can say we got to 220!! I'll see you again tomorrow! You can go back to your other work now.*

REFERENCES

Abedi, Jamal (2007). *English Language Proficiency Assessment in the Nation.* Retrieved from: http://cacompcenter.org/wp-content/uploads/2013/02/title_iii_elp_report.pdf.

Abedi, Jamal (2002). Standardized Achievement Tests and English Language Learners: Psychometric Issues. *Educational Assessment, 8(3), 321-257*. http://www.wou.edu//~jherold08/ED633/DONE%20Abedi%20standardized%20achievement%20tests.pdf.

Al Otaiba, S., Connor, C. M., Folsom, J. S., Greulich, L., Meadows, J., & Li, Z. (2011). Assessment data-informed guidance to indi- vidualize kindergarten reading instruction: Findings from a cluster-randomized control field trial. *Elementary School Journal*, *111*, 535–560.

Beem, Sofie, & Quirk Matthew. (2012). Examining the Relationship Between Reading Fluency and Reading Comprehension For English Language Learners. *Psychology in the Schools, Vol. 49(6)*. DOI: 10.1002/pits.21616.

Burns, Mathew K., & Helman, Lori A. (2008). What Does Oral Language Have To Do With It? Helping Young English Language Learners Acquire a Sight Word Vocabulary. *The Reading Teacher 62(1), 14-19*. DOI: 10.1598/RT.62.1.2.

Burns, Matthew K., MacQuairre, Lara L., Tucker, James A., Hartman, Brian. (2002). Comparison of Retention Rates Using Traditional, Drill Sandwich, and Incremental Rehearsal Flash Card Methods. *School Psychology Review, Vol. 31(4), 584-595.*

Carrier, Miranda E., Fritz, Abigail M., & Neddenriep, Christine E. (2011). Assessing for generalized improvements in Reading Comprehension by Intervening to Improve Reading Fluency. *Psychology in the Schools Vol. 48(1).* DOI: 10.1002/pits.20542.

Cunningham, A. E., & Stanovich, K. E. (1998). The impact of print exposure on word recognition. In J. L. Metsala & L. C. Ehri (Eds.), *Word recognition in beginning literacy* (pp. 235–262). Mahwah, NJ: Erlbaum.

Denton, C., Anthony, J., Parker, R., & Hasbrouck, J. (2004). Effects Of Two Tutoring Programs On The English Reading Development Of Spanish-English Bilingual Students. *The Elementary School Journal, 104*(4), 289-305.

Gickling, E. E., & Havertape, S. (1981). *Curriculum-based assess ment (CBA).* Minneapolis, MN: School Psychology Inservice Training Network.

Gickling, E., & Rosenfield, S. (1995), Best practices in curriculum- based assessment. In A. Thomas &c J. Grimes (Eds.), *Best practices in schoolpsychology* (3rd ed., pp. 587-595). Washington, DG: National Association of School Psychologists

Goldiamond I, Dyrud I.E. Some applications and implications of behavior analysis for psychotherapy. In: Schlein J, editor. Research in psychotherapy (Vol. 3, pp. 54–89) Washington, DC: American Psychological Association; 1966. (Ed.)

Gunn, B., Smolkowski, K., Biglan, A., Black, C., & Blair, J. (2005). Fostering the Development of Reading Skill Through Supplemental Instruction: Results for Hispanic and Non-Hispanic Students. *The Journal of Special Education, 39*(2), 66-85.

Hamilton, C., & Shinn, M. R. (2003). Characteristics of word callers: An investigation of the accuracy of teachers' judgments of reading comprehension and oral reading skills. School Psychology Review, 32, 228 – 240.

Harking, B., Webb, T. L., Chang, B. P., Prestwich, A., Conner, M., Keller, I., . . . Sheeran, P. (2016). Does Monitoring Goal Progress Promote Goal Attainment? A Meta-Analysis of the Experimental Evidence. *Psychological Bulletin, 142*(2), 198-229.

Horner, R. H., Carr, E. G., Halle, J., Mcgee, G., Odom, S., & Wolery, M. (2005). The Use of Single-Subject Research to Identify Evidence- Based Practice in Special Education. *Exceptional Children, 71*(2), 165-179.

Jenkins, J. R., Fuchs, L. S., Broek, P. V., Espin, C., & Deno, S. L. (2003). Sources of Individual Differences in Reading Comprehension and Reading Fluency. *Journal of Educational Psychology, 95*(4), 719-729.

Juel, C. (1988). Learning to read and write: A longitudinal study of 54 students from first through fourth grades. *Journal of Educational Psychology, 80*(4), 437–447.

Kindler, Anneka L. Office of English Language Acquisition, Language Enhancement and Academic Achievement for Limited English Proficient Students. (2002). *Survey of States' Limited English Proficient Students and Available Educational Programs and Services 2000-2001 Summary Report.* Washington D.C.: National Clearinghouse for English Language Acquisition And Language Instruction Educational Programs.

Klein, Jeff R., Jimerson, Shane R. (2005). Examining Ethnic, Gender, Language, and Socioeconomic Bias in Oral Reading Fluency Scores Among Caucasian and Hispanic Students. *School Psychology Quarterly, Vol. 20(1), 23-50.*

Kupzyk, Sara, Daly, Edward J. III, & Andersen, Melissa N. (2011). A Comparison of Two Flashcard Methods for Improving Sight Word Reading. *Journal of Applied Behavioral Analysis, Vol. 44(4), 781-792.*

LaBerge, D., & Samuels, S. J. (1974). Toward a theory of automatic information processing in reading. Cognitive Psychology, 6, 293 – 323.

Lou, Y., Abrami, P., & Spence, J. (2000). Effects of Within-Class Grouping on Student Achievement: An Exploratory Model. *The Journal of Educational Research, 93*(3), 101-112.

Meet Dolch – The Father of Sight Words. Retrieved from http://www.sightwordsgame.com/sightwords/dolch-list-dolch-word-list-dolch-sight-words-dolch-words-3/

Mendoza-Denton, R. (2014). A Social Psychological Perspective on the Achievement Gap in Standardized Test Performance between White and Minority Students: Implications for Assessment. *The Journal of Negro Education, 83*(4), 465-484.

Meisinger, E. B., Bradley, B. A., Schwanenflugel, P. J., & Kuhn, M. R. (2010). Teachers' perceptions of word callers and related literacy concepts. School Psychology Review, 39, 54 – 68.

Minncan. (2013). [Graphic educational data for Minnesota schools, interactive graphic]. *The State of Minnesota Public Education, 2013*. Retrieved from http://minncan.org/sites/minncan.org/files/research/reports/soe/index.html

Minneapolis Public Schools (2013). Period Enrollment Report (data file). Retrieved from http://studentaccounting.mpls.k12.mn.us/uploads/pre_officialsept14_2012.pdf

Minnesota Minority Education Partnership. (2012). Untapped Talent Series: English Learners in Minnesota Schools. Retrieved from mneep.org/wp-content/uploads/2015/02/el.pdf

National Clearinghouse for Language Acquisition, (2007) *The growing numbers of limited English proficiency students*. Retrieved from: http://www.ncela.us/files/uploads/4/GrowingLEP_0506.pdf.

National Institute of Child Health and Human Development. (2000). Report of the subgroups: National Reading Panel. Washington, DC: U.S. Government Printing Office.

Nist, Lindsey, Laurice, Joseph M. (2008). Effectiveness and Efficiency of Flashcard Drill
    Instructional Methods on Urban First Graders' Word Recognition, Acquisition,
    Maintenance, and Generalization. *School Psychology Review, Vol. 37(3), 294-*
    308.

No Child Left Behind Act of 2001, 20 U.S.C. § 7801(2004).

Paula J. Schwanenflugel, Elizabeth B. Meisinger, Joseph M. Wisenbaker, Melanie
    R.Kuhn, Gregory P. Strauss, & Robin D. Morris. (2006). Becoming a Fluent and
    Automatic Reader In the Early Elementary School Years. *Reading Research*
    *Quarterly Vol. 41(4), 492-522***.**

Pinnell, G., Lyons, C., Deford, D., Bryk, A., & Seltzer, M. (1994). Comparing
    Instructional Models for the Literacy Education of High-Risk First Graders.
    Reading Research Quarterly, 29(1), 8-39.

Reschly, A. L., Busch, T. W., Betts, J., Deno, S. L., & Long, J. D. (2009). Curriculum-
    based measurement oral reading as an indicator of reading achievement: a meta-
    analysis of the correlational evidence. Journal of School Psychology, 47, 427 –
    469.

Ross, S. G., & Begeny, J. C. (2011). Improving Latino, English language learners'
    reading fluency: the effects of small-group and one-on-one
    intervention. *Psychology In The Schools*, *48*(6), 604-618.

Ruiz Soto, Ariel G., Sarah Hooker, and Jeanne Batalova. 2015. *Top Languages Spoken*
    by English Language Learners Nationally and by State. Washington, DC:
    Migration Policy Institute.

Ruiz-De-Velasco, Jorge, & Fix, Michael (2000). *Overlooked and Underserved: Immigrant Students in U.S. Secondary Schools.* Washington D.C.: The Urban Institute.

Rupley, W. H., Willson, V. L., & Nichols, W. D. (1998). Exploration of the developmental components contributing to elementary school children's reading comprehension. *Scientific Studies of Reading*, *2*, 143–158.

Schwartz, R., Schmitt, M., & Lose, M. (2012). Effects of Teacher-Student Ratio in Response to Intervention Approaches. *The Elementary School Journal, 112*(4), 547-567.

Sirin, Selcuk R. Socioeconomic Status and Academic Achievement: A Meta-Analytic Review of Research. *Review of Education Research*, 75(3), 417.

Shankweiler, D., Lundquist, E., Katz, L., Stuebing, K. K., Fletcher, J. M., Brady, S., et al. (1999). Comprehension and decoding: Patterns of association in children with reading disabilities. *Scientific Studies of Reading, 3, 69 – 94.*

Slavin, R. E., Madden, N. A., Dolan, L. J., Wasik, B. A., Ross, S., Smith, L., et al. (1996). Success for all: A summary of research. *Journal of Education for Students Placed at Risk, 1*(1), 41–76.

The University of Chicago Urban Education Institute. (2013). *Strategic Teaching and Evaluation of Progress*. Chicago, IL: Author

United States Census Bureau (2012). *U.S. Census Bureau Projections Show a Slower Growing, Older, More Diverse Nation a Half Century From Now* [Press Release].

Retrieved from

https://www.census.gov/newsroom/releases/archives/population/cb12-243.html

Varma, S., & Schleisman, K. B. (2014). The Cognitive Underpinnings of Incremental

Rehearsal. *School Psychology Review, 43*(2), 222-228.

Vaughn Gross Center for Reading and Language Arts at The University of Texas at

Austin. (2005). *Introducing the 3-Tier Reading Model: Reducing Reading*

Difficulties for Kindergarten Through Third Grade Students (4th ed.). Austin,

TX: Author.

Wanzek, J., Roberts, G., Otaiba, S. A., & Kent, S. C. (2014). The Relationship of Print

Reading in Tier I Instruction and Reading Achievement for Kindergarten Students

at Risk of Reading Difficulties. *Learning Disability Quarterly, 37*(3), 148-160.

doi:10.1177/0731948713518334

Wiley, Hilda Ives & Deno, Stanley L. (2005). Oral Reading and Maze Measures as

Predictors of Success for English Language Learners on a State Standardized

Assessment. *Remedial and Special Education, Vol. 26(4), 207-214.*.

Zehr, Mary Ann (2008). Advocates for Bilingual Education Eager to Embrace Obama as

Ally. *Education Week Vol. 28(13).* Retrieved from

http://www.edweek.org/ew/articles/2008/11/19/13bilingual.h28.html