Winter 2-17-2020

The Influence of a Phonics-Based Program, Wilson Fundations®, on Primary Children's Reading Skills

Teresa DeBrito
teresa.debrito@student.shu.edu

The Influence of a Phonics-based Program, W*ilson Fundations*®, on Primary Children's Reading Skills

Teresa DeBrito

2020

A dissertation presented to the college of education and human services of Seton Hall University in partial fulfillment of the requirements for the degree Executive Doctor of Education

Department of Education Management Leadership & Policy

Dissertation Committee:
Dr. Martin Finkelstein, Chair
Dr. Janet Furman, Member
Dr. Bruce Storm, Member

COLLEGE OF EDUCATION AND HUMAN SERVICES
SETON HALL UNIVERSITY

APPROVAL FOR SUCCESSFUL DEFENSE

Teresa DeBrito has successfully defended and made the required modifications to the text of the doctoral dissertation for the Ed.D. during this **Spring Semester 2020.**

DISSERTATION COMMITTEE
(please sign and date beside your name)

Mentor:
Dr. Martin Finkelstein _____ 2-28-20
Date

Committee Member:
Dr. Jan Furman _____ 3/28/2020
Date

Committee Member:
Dr. Bruce Storm _____ 2.25.2020
Date

The mentor and any other committee members who wish to review revisions will sign and date this document only when revisions have been completed. Please return this form to the Office of Graduate Studies, where it will be placed in the candidate's file and submit a copy with your final dissertation to be bound as page number two.

Abstract

This case study focused on the experiences of teachers who utilized a reading program, *Wilson Fundations*®, to teach phonics-based instruction to primary age children at an urban elementary school. Face-to-face interviews and a review of preliminary data verified for this community of educators that the phonics-based program was leading to significant improvements in reading for their students.

Based on brain imaging and significant intervention research, children with reading difficulties do benefit greatly from multisensory phonics-based instruction. Although the research is clear, children in the United States continue to struggle with reading. The National Association of Educational Progress (NAEP) results reveal that approximately 1/3 of the nation's children are proficient readers. Phonics-based instruction developed by two brilliant minds, Orton-Gillingham, has paved the way for children with dyslexia and other reading difficulties.

The educators who participated in this case study unanimously verified that the phonics-based reading program had a sustainable impact on student reading ability.

Dedication

To my family, my husband and children, for their unending support; and to my parents who even though they did not have an education, never stopped learning, and passed on the greatest knowledge: faith, perseverance and love. Their departure of decades ago was much too early. I love you all.

A special dedication to all who have supported me, encouraged me, and been an invaluable part of my life, from my own teachers, family, friends, and colleagues. My accomplishments are reflective of your love and support. From the bottom of my heart, I thank you.

Acknowledgments

I would like to thank my committee members for the guidance, support, and encouragement that I received. I have greatly appreciated the advisement and patience bestowed upon me. To my initial mentor, Dr. Walker, your calm demeanor and the kind encouragement you provided always gave me an assurance that I could be successful. I will never forget how excited I was to learn that you would be my mentor. To the chair of my committee, Dr. Finkelstein, thank you for articulating a clear vision that paved the way for me to keep going. To Dr. Furman, thank you for believing in me and inspiring me from day one when you interviewed me as a doctoral candidate. To Dr. Storm, your thoughtful insights propelled me forward. Thank you for the genuine guidance. Thank you to Martha Loesch, who patiently assisted me during searches at the SHU library. To COHORT 21 and all of my professors at Seton Hall, Dr. Gutmore, Dr. Kuchar, Dr. Auriemma, Dr. Copeland, Dr. Walker, Dr. Finkelstein, Dr. Ramaswami, Dr. Tienken, Dr. Stedrak, Dr. Mirliss, Dr. Cummings, Dr. Fike, Dr. Browne, Dr. Mitchell, Dr. Sokolow, Dr. Osnato, and Attorney Stern. I could not have done it without you!

Table of Contents

List of Tables

List of Figures

Chapter I: Introduction to the Study

"*We were never born to read*." (Wolf, 2007, 3).

Research has shown that millions of children throughout the world are on a continuum of reading difficulties (Shaywitz, 2003). The 2017 NAEP results show that only 35% of the nation's 4th graders met proficiency in reading, leaving approximately two-thirds of the children behind, nearly a third below basic and the other third at basic (https://www.nationsreportcard .gov). The reality in today's schools shows an increasing number of identified children with a reading disability. The tipping point has been identified as the upper elementary level, Grades 3-4. The special education eligibility rates increase beyond third grade (Kent et al., 2017). This research is consistent throughout the decades. Francis et al. (1996) found that regardless of the cause, for nearly three quarters of students who enter the upper elementary grades with a reading difficulty, these difficulties are likely to persist into middle and high school years (Kent et al., 2017). Teaching reading is a complex phenomenon consisting of instruction that develops the brain's ability to translate letter-sound correspondence and fluently read words, requiring a deep phonemic understanding (Gallant et al., 2009, p. 1). According to the New Oxford American Dictionary, phonics-based instruction is *a method of teaching to read by correlating sounds with letters or groups of letters in an alphabetic system*. The question I seek to answer is: Does instructing children utilizing the *Wilson Fundations*® phonics-based reading program in the primary classroom influence their ability to read? This study also examined the history of reading instruction and included a review of the research on the topic of the latest brain research on how children learn to read.

Understanding letter-sound correspondence phonemes is needed as an initial step that leads to the ability to read and write (Wolf, 2007, p. 99). This is a basic non-negotiable in

education. Often teachers do not understand the complexity involved in teaching letter-sound correlations. The belief for many years has been that the brain was fixed. However, recent research has proven that the brain can regenerate itself; neuroscientists can virtually see the neuronal activity because of advanced technologies. Structural plasticity can lead to formation of new neural pathways (Costandi, 2016, pp. 11, 13). This research disproves the theory that the brain is fixed and provides needed knowledge for educators teaching children who are predisposed to a reading disability, dyslexia. *The brain is most malleable during development and in early childhood … among the general public, the idea of neuroplasticity is viewed positively … near magical powers. This helps to explain why a 6-year-old child can go on to lead a perfectly normal life after having an entire brain hemisphere removed* (p. 148).

Dr. Shaywitz, researcher at Yale, used technology imaging advancements to show that explicit phonics-based instruction illuminated the brains of children who had deficits in their ability to read. Her research does hold promise for those who have reading difficulties and for their teachers, as studies of phonics-based instruction have been proven to build the brain circuitry that leads to independent reading. In addition, the meta-analysis research conducted by the National Reading Panel found that explicit phonics-based instruction significantly increased reading skills for those in the primary grades (National Reading Panel, 2000).

Background of the Study

According to *History of Reading Education*, students need alphabetic instruction, explicit phonics, in order to master basic reading skills of decoding and fluency (K-12 Academics, 2004-2018). In recent decades, the focus of literacy instruction has vacillated between non-phonics and phonics-based. We now know that non-phonics instruction, whole language, is detrimental to students who are predisposed to dyslexia, because they cannot intuitively learn to

read (Wolf, 2007). Their brains cannot automatically memorize the sound-letter correspondence, nor transfer the sounds to the symbols that are in print. Even Dodds (1967) acknowledged that in the 1800s, there were children who exhibited difficulties when learning to read (p. 276). Through the centuries, heated debates and *bitter arguments* among "experts" vying for acceptance of differing beliefs about how to teach children to read infiltrated the education system (Dodds, 1967, p. 277). Due to the NAEP Grade 4 reading achievement results as well as the number of students who are identified with a reading disability, this study may provide insight into instructional tools needed to transform reading instruction for all primary school children.

The History of Reading Instruction is an important reminder of the wide pendulum swings in American education. Since research has now provided definitive evidence about the elements necessary to become a proficient reader, isn't it time to act before another generation of our children are denied their "right to read?" (National Right to Read Foundation, 2014).

The literature does suggest that of all the historical reading instructional practices, the one method shown to impact the brains of children who are on a continuum of predisposition to reading difficulties is the Orton-Gillingham phonics-based approach. For example, in the nation's *Reading Panel Report* (2000), a meta-analysis of reading instruction research, the authors found that specific phonics instruction taught early in primary school actually resulted in stronger reading. They found that the mean effect sizes for kindergarten and first grade were 0.56 and 0.54, respectively. However, the mean effect size for older children (Grades 2-6) was 0.27. "These results indicate clearly that systematic phonics instruction in kindergarten and 1st grade is highly beneficial and that children at these developmental levels are quite capable of learning phonemic and phonics concepts … and must begin with foundational knowledge

involving letters and phonemic awareness" (Reading Panel Report, 2000, p. 109). Moreover, their analysis found that there was substantial reading growth among children at risk for developing reading problems, and phonics instruction significantly did improve independent reading ability for disabled students (Reading Panel Report, 2000, p. 110).

At a very young age, children can see the difference when their peers can read but they cannot, and thus think of themselves as stupid. Furthermore, illiterate children are more likely to drop out by the time they get to high school. What would be the outcome if primary school teachers were to use research-based reading instruction? Louisa Moats (2010), a well-known expert in the reading field, spearheaded the compilation of the Knowledge and Practice Standards. Teaching reading effectively requires considerable knowledge and skill. Students who are predisposed to dyslexia will benefit from a phonics-based reading program.

Teachers cannot see whose brain is predisposed to reading difficulties, but if they are to create primary learning environments that lead to functional, independent reading capacity for our children, districts should consider the latest brain research and the impact of teaching reading. It is puzzling for an educator to understand the difficulties experienced by students, especially if understanding how they read is an enigma. There is no conscious thought process for many readers. For those of you who are reading this document: Are you stopping along the way to understand what your brain is doing flawlessly and without notice? Any approaches and practices that can contribute to making reading fluency a reality for all children is worthy of research. There is an Orton-Gillingham-based program, *Wilson Fundations*®, that is said to provide foundational reading skills when utilized as whole group instruction. However, there is no research available to support or refute its effectiveness. The researcher aims to provide data

on the effect of this program based on a case study of teacher experiences at an urban elementary school.

Problem Statement

When students lack phonemic awareness a myriad of difficulties are likely to follow, including lack of fluency that will impact comprehension, especially in the upper grades when texts become more complex. "If reading fluency is not taught in elementary grades is there any reason to expect adolescent readers to achieve fluency? Clearly, the need exists for more research into the impact of all aspects of reading … The potential for such work to improve reading instruction for all students is enormous" (Rasinski et al., 2009, p. 360).

The Reading Panel conducted a meta-analysis of phonemic awareness instruction studies. *Results have been sufficiently positive to sustain confidence that this treatment is indeed effective across a variety of child and training conditions* (National Reading Panel, 2000, p. 25). Ritchey and Goeke (2006) conducted a review of the Orton-Gillingham (OG) approach to reading instruction. In their research, they acknowledge that OG has become accepted as a viable intervention for students who struggle to read. In their review of 12 studies, five reported that OG was more effective for all measured outcomes; another four reported that OG was effective for at least one outcome and the other three did not report OG as a better method. The most impactful outcomes were word attack and non-word reading outcomes, with a mean effect size of 0.82, and comprehension outcomes, with a mean effect size of .076. The researchers do encourage more rigorous research to gain a deeper understanding of the impact of this approach (Ritchey & Goeke, 2006).

While there is evidence that the Orton-Gillingham multisensory approach positively influences a child's ability to learn to read after they are identified with a label, there is no consistency in the instructional practices utilized in the regular classroom, because there are

hundreds of programs claiming to be the answer to teaching reading. Nearly 100% of the literature focuses on the instructional approach for students *after* they are identified as having a reading disability. An Orton-Gillingham phonics-based program, *Wilson Fundations*®, was written for whole classroom instruction. However, as noted above, there is no research on its effectiveness.

Purpose

The purpose of this study was to examine the teacher and principal perceptions of the use of the whole class program *Wilson Fundations*®, a reading program grounded in phonics-based instruction. Specifically, it is a PK-3 systematic program in critical foundational skills, emphasizing: phonemic awareness, phonics/word study, high frequency word study, reading fluency, vocabulary, comprehension strategies, handwriting, and spelling. This case study provides information regarding whether the program is successful, and the perceptions of its impact in developing student foundational reading skills in the general education classroom.

Significance

This study provides data on teachers' first-hand experiences regarding students' outcomes in learning to read in primary education classrooms, Grades PK-2. With the knowledge gained, other districts may also garner new insights and re-evaluate the reading programs used in their classrooms. Information may be drawn from this research that will also aid administrators and curriculum developers in considering protocols for reading instruction. Hence, the significance of this study.

Research Questions

This case study aimed to analyze teacher experiences due to the implementation of *Wilson Fundations*®. How are students reading before and after the implementation of the new reading program and how are educators perceiving the impact on students' acquisition of reading?

1. How does the principal describe the factors that led up to the adoption and implementation of *Wilson Fundations*®?
2. How do teachers describe their experience in implementing *Wilson Fundations*®, PK-2?
3. How do teachers, PK-3, describe the effects of *Wilson Fundations*® and its effect on students' reading skills?

Definitions of Key Terms

Affix – A letter or group of letters added to the beginning or end of a word (prefix vs. suffix)

Alphabetic principle – Letters are symbols used to represent speech sound relationship between written symbol—letter—and its sound; written system

Automatic development – Automatic word recognition as a function of reading

Blend – English language is made up of a combination of consonants and vowel sounds that blend to make new sounds

Consonant – A speech sound that is not a vowel and refers to letters of the English alphabet that make those specific sounds

Consonant-vowel-consonant (CVC) – Words that have these letters in the specific CVC sequence and are used to teach short vowel sounds; i.e., cat

Digraph – A pair of letters that make a single sound; i.e., ph - /f/

Diphthong – A sound made by combining two vowels in a single syllable that results in a noticeable sound change (compound vowel); i.e., toy

Dyslexia – familial (neurobiological) learning disability associated with difficulties in language/reading

Dysteachia – A lack of understanding/capacity to teach children with dyslexia; inappropriate teaching of reading

Frontal lobe – Area at the front of the brain, the largest lobe of the cerebral cortex; associated with attention and short-term memory/planning

Grapheme-phoneme correspondence – letters written together that correspond to the word intended to be written/spoken

Heteronyms – Two or more words spelled identically, but having different sounds

JK/K – Junior Kindergarten; similar to Pre-K

Language-based – Associated with spoken and written language and literacy (reading/listening)

Letter-sound – Recognition of the sound(s) made by a letter – a decoding skill

Morpheme – The smallest unit of sound within a word; every word has a minimum of one morpheme

Morphology – The study of how words are formed (with stems, prefixes, suffixes)

Neocortex – The part of the human brain involved in higher order brain functioning (cognitive, language, motor)

Occipital cortex – one of the major lobes of the cerebral cortex; main center for visual processing

Orthographic – The method of writing a language—conventions; norms for spelling, grammatical rules

Phoneme – Parts of words that are made of sounds; each letter has a sound

Phonetic system – One-to-one relations between writing and pronunciation

Phonics – A method of teaching reading and spelling based on phonetic interpretation

Phonological awareness – An understanding of the sound structure of words

Phonological processing – A phonological process in working memory that leads to reading comprehension, written expression, and spelling

Processing speed – Cognitive ability to process information; sounds, words, visuals, working memory, attention, thinking

Push in – Support is provided in the classroom during direct instruction

Rapid naming – Quick word retrieval

RC/Responsive Classroom – A classroom structure for building rapport and providing clarity to maximize student academic and social behaviors

Root – The most basic part of a word without prefix/suffix

Sound-symbol association – Once the alphabetic principle is understood, letters have specific sounds, depending on the grouping of the letters

Syllable – A unit of pronunciation having one vowel sound; each word has a minimum of one syllable

Syllable type – Seven types help make sense of the English language, as there are rules to follow when each is encountered; r-controlled, vowel team, diphthong, closed, open, magic e, consonant-le

Temporal lobe – In the brain, the paired lobes between the temples; concerned with understanding and hearing

Vowel – A letter representing a specific speech sound; six letter types

Word – A distinct grouping of letters to form meaning

Working memory – A cognitive system that temporarily holds information; executive functioning needed to read, do math, concentrate, access info, remember

Summary

A primary role of the elementary school teacher is to teach students how to read. The United States of America does not have a good track record for institutionalizing research-based protocols into the regular education classroom. In Chapter I, the background of the study, specifics regarding this case study, and the significance were provided. In addition, definitions of terms and limitations were also presented. A review of the literature follows in chapter II. Additional information regarding teaching children how to read as well as how children learn to read is further examined. Chapter III provides a detailed protocol of the research design, methodology for data collection and analysis. Chapter IV provides details regarding the findings. Chapter V concludes with summarization and new insights for moving forward, with recommendations for additional research.

Chapter II: Research and Literature Review

Introduction

This chapter provides detailed information about the research findings and articles related to reading acquisition. The review also includes relevant research regarding how children learn to read, the brain circuitry that is required in order for students to become literate, and the ailments that hinder the progression of reading skills (on the dyslexia continuum) for students who struggle. A review of the research-based best practices that are used when students receive specialized reading instruction is also discussed. Special consideration is given to specifically learning to read the English orthographic system.

A concern is that our education system is not providing appropriate instruction for children at a younger age. Rather, students are passed along until they "hit a brick wall" in the upper elementary grades or until they misbehave to mask the real issue, resulting in misdiagnosis. As a nation, we have over-identified males for special education services. In particular, dyslexia is more often diagnosed in males (Peterson & Pennington, 2012). "There are approximately 44 sounds in one's head that can be created with blending 26 letters. Considering that girls are more advanced in language than boys are, they are delighted with this challenge. However, the boys are asking themselves how to get out of this challenge. Clearly, this scenario can create much anxiety" (Silva, 2014, p. 34). It is no surprise that students struggling with reading try desperately to hide the truth, hence frequent misdiagnosis.

"A child's awareness of the discrete sounds and phonemes in a word is both a critical component and an outgrowth of learning to write and learning to read" (Wolf, 2007, p. 99). This is a basic non-negotiable in education. However, there is no research to show that the model, OG-based phonemic awareness instruction, is being used in our classrooms. Often teachers do not understand the complexity involved in teaching letter-sound correlations. "Indeed it is a

concept largely missing in most of the earlier primers used to teach reading to children" (Wolf, 2007, 97).

Dr. Wolf, a researcher at Tufts University, has spent decades researching how we learn to read. She writes that years ago, humans communicated with symbols, not written words. The written word evolved over time and there is evidence of some language development via Egyptian hieroglyphics. Hence, "humans created reading" (Wolf, 2007, p. 3). There is no denying that in the 21st century, literacy is the fundamental circulatory system for survival, as vital as arteries are to a beating heart.

> We know that each new type of writing system was developed through millennia of human history, and required different adaptations of the human brain … and we know the curious mix of challenge and gift to be found in dyslexia – in which the brain struggles to learn to read … Together, these areas of knowledge illuminate the brain's nearly miraculous capacity to rearrange itself to learn to read (Wolf, 2007, p. x).

Dr. Wolf goes further to say that the vast majority of us have taken reading for granted and believe that it is natural for children to learn to read. This misperception is another concern.

All children need to learn how to decode and read fluently. Across the globe, phonological awareness is understood to be the first stage toward developing independent reading skills. Yet, in classrooms across our nation, there are children who have reading difficulties that are not being addressed, resulting in detrimental consequences. For people who had no difficulty learning how to read, it can be mind-boggling to understand how a spouse or one's child is dyslexic. The exertion required to build the brain circuitry that leads to coherent reading is monumental for those with dyslexia.

Interestingly, the phonetic system is not the same for all languages. Languages such as Spanish, Italian, German and Finnish have a correspondence of letter-sound. To clarify this point, their letter-name matches the sound. This alphabetic reliability is easier to learn, and is known as shallow orthographics (Paulesu, Brunswick, & Paganelli, 2010). In English, this is not

the case. For example, the letter "a" has two sounds, long-a and short-a. According to Dr. Wolf, there are different neuronal pathways created by the brain, depending on the language. For example, "a person who learns to read Chinese uses a very particular set of neuronal connections that differ in significant ways from the pathways used in reading English" (p. 5).

Consequently, the orthographic complexity of a language directly impacts how difficult it is to learn to read that language (Paulesu, Brunswick, & Paganelli, 2010). The reality in the United States is that the orthography of the English language is complex and unreliable. In other words, the rules in English are not consistent, leading to confusion for the student who has a reading disability. The complexity of English structures employs various sound and spelling patterns (Juel, 2013). For example, when a vowel is followed by a consonant, it *usually* makes a short sound; we denote this rule as cvc (consonant-vowel-consonant). However, this is not always the case, as readers must distinguish when an "i" has a long sound as in ***final*** but has a short sound as in ***fit***. Another "trick" in the English language is spelling words the same way but using different sounds associated with reading the words, dependent on the meaning (heteronyms). For example, ***lead*** (long "e" sound) is said differently for ***lead*** paint (short "e" sound), and other words such as ***live***, ***read***, ***wind*** are also examples of both short and long vowel sounds within the same spelled word. Alternatively, the phoneme (sound) of "oa" appears in words (that are spelled differently) with "oa," "ow," "o," "oe," "o-e" such as boat, grow, toe, go, home. However, when the word "cow" is introduced, the letter-sound combination changes completely from the "oa" as shown in the word "grow." It is important to note that these inconsistencies make it difficult not only for students with a reading disability but also for English learners.

The significant concern is that children with reading difficulties are not receiving appropriate instruction during the primary years.

The reality of dyslexia crosses all oceans and countries. The research done by Cappa and Giulivi (2012) across Europe affirms the standard definition of dyslexia as:

> A specific learning difficulty that mainly affects the development of literacy and language related skills. It is characterized by difficulties with phonological processing, rapid naming, working memory, processing speed, and the automatic development of skills that may not match up to an individual's other cognitive abilities (British Dyslexia Association, 1997).

Unfortunately, regardless of intellectual ability or the desire to learn, some children do not develop effective reading skills. The multisensory approach to reading is critical … to the student who reads poorly (Moccia, 2005, pp. 22, 25).

An analysis of the work conducted by Kent, Wanzek, and Al Otaiba (2017), *Reading Instruction for 4th Grade Struggling Readers and the Relation to Student Outcomes*, found inconsistencies even in the amount of time teachers used explicit instruction during observations of a student's general education reading class time. The study was conducted in two communities in Florida and Texas totaling 22 classrooms and 110 students. The observers were trained and calibrated for the task, with double coded random sampling confirmed interrater agreement (95.2%). The data showed that there was no instruction in phonological awareness in the regular education classroom and that time devoted to spelling or phonics skill occurred on average less than 30 seconds. During supplemental reading instruction, the data showed that students received phonics/decoding instruction for just over a minute. They spent five minutes in oral reading fluency practice. This is not instruction. The researchers found significant variability in the number of minutes allocated to in-class Tier 1 instruction. They also admit that one of the most surprising findings was the absence of instruction in phonics and structural analysis in Tier 1. This was supported by data showing that across 41 observations, only a single

instance of such instruction was noted. When the researchers did examine the impact of core and supplemental instruction on student outcomes, their results only showed minimal effects. They also found that there was a significant difference in the mean ratings of instructional quality for teachers of students who received Tier 2 supplemental time. The researchers also reiterated Vaughn's (2012) research—namely, that among students entering middle school with reading difficulties, multiple years of supplemental instruction were required in order for students to demonstrate improved outcomes relative to peers.

Brain Plasticity and Reading Difficulties

The brain scans of people with dyslexia demonstrate a lack of activity found in the typical brain. *Your brain*, while reading this research, is currently experiencing tremendous activity.

> The occipital cortex is very active, processing all the visual information, words and letters. The frontal lobe of the neocortex is engaged in processing the meaning of the text being read, the meanings of the words, sentences, and relating meaning to what is being read. In addition, the temporal lobe, on the left side of the brain, is also quite active processing the "sounds" associated with reading; these speech sounds are active in the brain even during silent reading (Wren, 2003).

Your brain may be doing all of this work effortlessly. However, the brain of an individual with dyslexia would not. The brain scans of people with dyslexia demonstrate a lack of brain activity found in the typical brain (Lyon, Shaywitz, & Shaywitz, 2003). The underlying mechanisms of dyslexia are problems within the brain's language processing (National Institutes of Health, March 2015).

Dyslexia is not related to intelligence or motivation. Fifteen to twenty percent of the population has a reading disability. Dyslexia is language-based and refers to a cluster of difficulties in spelling, reading, writing and/or speaking. It is a life-long challenge and has a

different impact at different times in one's life (Lyon, Shaywitz, & Shaywitz, 2003). The underlying mechanisms of dyslexia are problems within the brain's language processing (National Institutes of Health, March 2015). Dyslexia is separate from reading difficulties caused by hearing or vision problems (Peterson & Pennington, May 2012).

"Problems with phonological processing have been found in at least 80 to 90 percent of individuals with dyslexia. The phonological processing system plays a key role in analyzing and manipulating the sound structures of words" (Eide & Edie, 2011, p. 23). Dr. Angela Fawcett described procedural learning and its relationship to dyslexia for us in the following way: "Procedural learning is learning how to do something, and learning it to the point where it's automatic, so you know how to do it without having to think about it. This process of becoming automatic with complex rules and procedures is much more difficult if you're dyslexic … Instead, they learn better when rules and procedures are broken down into small more easily mastered steps and demonstrated clearly—a process known as explicit instruction (Eide & Eide, 2011, pp. 26-27).

The visual brain imaging allows us to prove, unequivocally, what the brilliant neurologist Samuel Orton and his colleague Anna Gillingham discovered about dyslexia, a failure of communication between the right and left hemispheres (Wolf, 2007, p. 183).

"Activation of the brain is more diffuse when children are beginning to learn to read. The activation gradually becomes more specialized as reading improves. Similarly, when asked to read single words, normal readers show left hemispheric activation, whereas those with dyslexia show more right hemispheric activation" (Breier et al., 2002; Papincolaou, 2003).

Researchers have built on the work of Orton and Gillingham and can prove that explicit multisensory instruction has opened a doorway to reading fluency for students with reading difficulties, dyslexia.

The more effort it takes to read, the more the brain is activated. "Once fluent, the brain doesn't need to expend as much effort, resulting in the brain's capacity to integrate more metaphorical, inferential, analogical, affective background and experiential knowledge" (Wolf, 2007, p. 143).

Drs. Sally and Bennett Shaywitz at Yale used a brain scanning technique called functional magnetic resonance imaging (fMRI) to identify the brain areas that become active as individuals with dyslexia and nondyslexics read … The dyslexic brain consistently employs more right-hemisphere structures than left-hemisphere structures (Eide & Eide, 2011, p. 33).

Figure 1 provides a glimpse into the active areas needed for the brain to process written language. There is nearly no activity in the left hemisphere prior to the intervention. However, the explicit instruction yields brain activity, allowing the child to learn how to read.

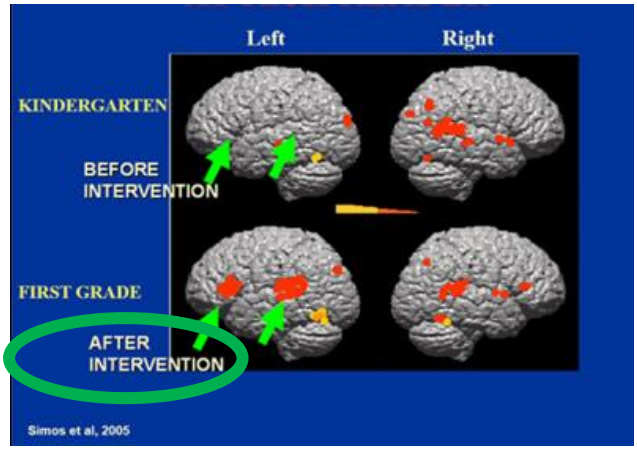


Figure 1. At Risk Reader (Selwyn, *n.d.*)

Neuroscience has provided significant research in the area of brain plasticity. With specialized instruction, the circuitry required for students with dyslexia to access language is built, as illustrated in the shown exhibit (Selwyn, *n.d.*). "Research shows that a student who fails to read adequately in first grade has a 90 percent probability of reading poorly in fourth grade, and a 75 percent probability of reading poorly in high school. This compounds the need to level the playing field and help all children thrive and succeed as readers" (Florida Center for Reading Research, 2018).

What the Research Shows About Effective Reading Instruction

"Orton-Gillingham is considered to be the gold standard for remediating reading difficulties for students with dyslexia. The results have been better than any other intervention" (Kilpatrick, 2015, p. 293). The Orton-Gillingham approach is based on a technique of studying and teaching language, understanding the nature of human language, the mechanisms involved in learning, and the language-learning processes in individuals.

The Orton-Gillingham trained teacher introduces the elements of the language systematically. Sound-symbol associations along with linguistic rules and generalizations are introduced in a linguistically logical, understandable order. Students are taught in a systemic manner—sounds, syllables and words. Students learn the elements of language—consonants, vowels, digraphs, blends, and diphthongs—in an orderly fashion. They then proceed to advanced structural elements such as syllable types, roots, and affixes.

There is no research to show that districts have teachers trained in this approach. However, there is research to show that this approach is a breakthrough for students who are identified with a reading disability. Unfortunately, districts often blame other reasons as to why

the student is not reading on grade level. "The problem with this assumption is that we have ample research to show that by making changes in our instructional approaches, we can prevent many reading difficulties as well as substantially accelerate the reading growth of most students with reading difficulties" (Kilpatrick, 2015, p. 23). As the research shows, waiting is harmful to children. Students with dyslexia understand in their primary years that they cannot do what their peers can. Dyslexic children require special instruction for word analysis and spelling from an early age (O'Hare, 2010).

Oakland et al. (1998) found that a two-year Orton-Gillingham approach resulted in "significant increase in reading recognition and comprehension when compared to a control group." Attorney Emerson Dickman (2017) who represents individuals with disabilities stated, "If one day we stopped using the term dyslexia altogether, that might be a good thing, but right now, however, we are at a critical stage of getting the vaccine to the masses." Researcher and professor at Tufts University Dr. Wolf says it best:

> Nothing in our intellectual development should be less taken for granted at this moment in history … the act of reading is not natural, with consequences both marvelous and tragic for many people, particularly children … We know the toll that not learning to read takes on children regardless of their native language, whether struggling Filipino communities, or Native American reservations or in affluent Boston suburbs … Many of our efforts explore the effects of interventions on the brain. Thanks to imaging technology, we can actually "see" how the brain reads before and after our work is done (2007, Preface).

The Orton-Gillingham approach has long produced better results with struggling readers (Kilpatrick, 2015, p. 294).

> There are now hundreds of phonological studies demonstrating that many children with reading disabilities do not perceive, segment, or manipulate individual syllables and phonemes in the same way as average-reading children … we now know that these children experience the most difficulties learning to read when they are expected to introduce the rules of correspondence between letters and sounds on their own. Indeed, the most important contribution of phonological explanations of dyslexia is their impact on early reading instruction and remediation. The researchers, Torgesen and Wagner … have demonstrated … that systematically and explicitly teaching young readers phoneme

> awareness and grapheme-phoneme correspondence are far more successful in dealing with reading disabilities than other programs (Wolf, 2007, p. 175).

Children with any form of dyslexia are not "dumb" or "stubborn"; nor are they "not working to potential"—the three most frequent descriptions they endure. However, they will be mistakenly described in these ways many times by many people, including themselves … [We] must ensure that all children with any form of reading problem receive immediate, intensive intervention, and that no child or adult equates reading problems with low intelligence" (Wolf, 2007, p. 195).

Individuals with dyslexia who are trained sufficiently to produce the kind of right-to-left shift in their reading circuit described above usually don't become indistinguishable from fully "normal" readers but instead become their own unique variety of highly skilled "dyslexic readers" (Eife & Eife, 2011, p. 37). Can this training be done in the regular education setting?

"A reading program is likely to be successful … if it includes explicit instruction in phonological awareness and the alphabetic principle" (Silva, 2014, p. 146).

Psychologist David Kilpatrick states that there is a significant gap between reading research and classroom practice. "The unfortunate reality about reading research: Nobody knows about it!" (Kilpatrick, 2015, p. 4). At the 2009 international conference of the Society for the Scientific Study of Reading, Texas A & M Professor Joshi shared results of a survey of college literacy instructors who train school teachers; 80% were unfamiliar with scientific reading research" (Joshi, 2002, p. 5). Furthermore, "other studies have shown that K-3 … general education teachers … are generally unfamiliar with the scientific findings regarding reading acquisition and reading difficulties. Sally Shaywitz, a neuroscientist and reading researcher … expressed frustration over 'the relative lack of dissemination and practical application of these remarkable advances'" (Shaywitz, 2003, p. 4; Kilpatrick, 2015, p. 5).

Literacy is a basic non-negotiable for all students. However, teachers use various programs to teach in a whole group manner. Nearly 20% of the student population has difficulty with reading, and current instructional practices do not meet their needs.

For example, a reader's workshop focuses exclusively on print concepts and modeling love of reading. However, there is no explicit instruction in how to teach orthography.

Although most students naturally and intuitively pick up the orthographic rules for learning to read English, research shows that a group of students are left behind and require specialized multisensory instruction. Too often students get by until they "hit a wall" in 4th grade, are referred to a lengthy process to be identified as special education and enter a life sentence of having a significant literacy gap.

Chall, Jacobs, and Baldwin (1990) noted that 4th grade is a critical transition period, when students move from "learning to read" to "reading to learn." The 4th grade slump, they suggested, might be related to students struggling to shift from reading relatively easy, familiar words. Furthermore, Willingham (2009) explains that if a student is still sounding out words, he or she will need to devote a great deal of working memory to that task. As a result, the student will have less brainpower remaining to comprehend what he or she is reading. "The difficulty is that there's only so much room in working memory, and if we try to put too much stuff in there, we lose the thread of the … story we were trying to follow" (Educational Leadership, April 2011).

In Finland, Ylinen and Kujala (2015) found that "remediation programs for language-related deficits are urgently needed to enable equal opportunities in education. Moreover, training has been shown to induce plastic changes in deficient neural networks" (p. 1).

Poor reading skills that remain unremediated can lead to special education referrals, as noted above. Slavin (1984) found that when reading difficulties are not addressed aggressively and successfully, students will continue to struggle. According to the U.S. Department of Education (1997), the gap between expected reading level and actual reading skill widens and the student falls farther behind same-aged peers. These students are often diagnosed with a learning disability. Of the students diagnosed with a learning disability, 80% have problems in reading. Denti and Guerin (1999) found that special education placement is often long term and the likelihood of dropping out of school increases (Moccia, 2005, p. 23).

"If the research presented … were implemented in schools, far fewer students would be considered to have a reading disability" (Kilpatrick, 2015, p. 345). "Research has shown that even students with some of the most severe reading disabilities can make substantial progress in their word-reading skills to an average level" (Kilpatrick, 2015, p. 304).

Slavin et al. (1994) found that research strongly supports teaching reading at the elementary level to the point of proficiency to prevent student frustration and to avoid consequences of un-remediated problems.

Without targeted, systematic and explicit instruction, students with dyslexia may have:

- Reduced reading experiences that can impact the growth of vocabulary and background knowledge,
- Difficulty with written expression,
- Difficulty learning a second language, and/or
- Behavioral or emotional reactions.

The National Research Council (1998) studied reading research in order to address the reading failure rates of the nation. Through this analysis of the body of research of effective

reading practices, they found that most reading problems can be addressed early on in a child's schooling (Denton, *n.d.*). The writers of the report *Preventing Reading Difficulties in Young Children* discovered that the very first thing students need to be able to do is "understand how sounds are represented by print and be able to apply this understanding to read and spell words. They also noted the importance of teachers providing explicit instruction in phonemic awareness and phonics integration" (Denton, *n.d.*). In addition, the National Reading Panel (2000) also conducted a comprehensive examination of reading research and they concurred that reading instruction needs to include: "phonemic awareness, phonics, fluency, vocabulary and comprehension. They further added that effective classroom reading instruction includes teaching phonemic awareness in kindergarten and 1st grade and phonics explicitly and directly so that students can apply the skill" (Denton, *n.d.*). To this day, the National Reading Panel has not reconvened, but the research continues to support the already known effective instructional practices needed to teach reading in the primary grades.

Let us review a non-experimental study conducted by Swanson and Vaughn (2010) of 10 special education resource room teachers delivering instruction in phonological awareness, word study, comprehension, reading fluency, and vocabulary instruction to 2nd to 5th graders. Observers were trained and calibrated. Of the 2,178 minutes of observed reading instruction, 60 minutes or 2.8% of the instruction was spent on phonological awareness. On the 4-point scale used to rate teacher quality of instruction in phonological awareness, 40% were rated as low or weak. Phonics instruction was observed less than a third of the time (just under 32%). Twenty-five percent of the phonics instruction was rated as weak. Fluency instruction represented just under 9% of the time observed, with an effective rating of 3.5%. The researchers found that in this study teachers provided 15 minutes of phonics instruction. Using the Letter-Word

Identification test, students were still a Standard Deviation below the norm, for both the pre and posttests. As already noted, there was a deficit in explicit phonological instruction. This study raises further concerns about the expertise and fidelity of the instruction that is provided during resource class.

There are states paying attention to the research. For example, Connecticut recently passed Public Act 14-39, which requires the Connecticut State Department of Education (SDE) to add "SLD-Dyslexia" as a separate primary disability category on the individualized education program (IEP) form. The bill received support from Allison Quirion, the founder of Decoding Dyslexia-CT who testified at the Education committee's public hearing stating, "Connecticut students with dyslexia are increasing while their test scores are decreasing and dyslexic students who do not have their dyslexia properly treated increase their risk of committing crime" (Thomas, 2017).

In addition, in 2017 a new bill was introduced that requires specialized dyslexia training for all who seek special education or reading certifications. Although a step in the right direction, this still leads to the likelihood of waiting too long to provide appropriate instruction to students with reading difficulties.

Slavin et al. (1994) reported that if effective and complete remediation does not occur by Grade 3 it may be too late to recover the reading skills needed for successful independent learning. Yet, there are still students who leave elementary school without this fundamental skill (Moccia, 2005, p. 1).

One invisible issue in American education is the fate of young elementary students who read accurately … but not fluently in Grades 3 and 4. Unless their problems are dealt with, these students will be left in the dust. We know a lot about developmental dyslexia and intervention

… some of them have a "rate of processing" type of dyslexia … Whatever the reasons, to have close to 40% of our children "underachieving" reflects a horrific waste of human potential. It is a great "black hole" of American education (Wolf, 2007, p. 136).

"You will never understand what it feels like to be humiliated your entire childhood and taught every day to believe that you will never succeed at anything" (Wolf, 2007, p. 166).

It is also evident that people with dyslexia have significant strengths that may go unnoticed. "Former Harvard neurologist Dr. Norman Geschwind—one of the most esteemed figures in the history of dyslexia research—noted that in his experience many dyslexic children display a passion and skill for spatial activities … well before they begin to struggle with reading" (Eide & Eide, 2011, p. 54). Let's not continue to miss the boat for these children.

I ask what are we waiting for? What are educators waiting for? The training is needed and every classroom teacher in the primary grades needs to embed multisensory instruction. "The sheer amount of evidence showing the efficacy of phoneme awareness and explicit instruction in decoding for early reading skills could fill a library wall" (Wolf, 2007, p. 175).

In Connecticut, much work has been done at the Learning House in Guilford and at the Yale Child Study Center. They have actually created a separate site known as the Yale Center for Dyslexia and Creativity. At the center, Dr. Shaywitz has used the Orton-Gillingham approach and is leading a mass campaign to publicize what these children need. A worthwhile video clip, *A Letter to My Teacher*, reveals the difficulties endured by a dyslexic student and the impact of specific teaching that led to success.

"Frustrations of reading failure can lead to a cycle of learning difficulties, dropping out, and delinquency. Most important, the considerable potential of these children will be lost to themselves and to society" (Wolf, 2007, p. 196).

It is important to note that there are many success stories for people who have publicly shared their dyslexia. This resilience is phenomenal. I include Tom Cruise, Albert Einstein, and Leonardo DaVinci just to name a very few. "A top business school in England sent out a press release with the headline: 'Entrepreneurs are five times more likely to suffer from dyslexia. Anyone with dyslexia can tell you, being dyslexic really can involve a great deal of suffering: like the suffering of constantly failing at skills others master with ease; the ridicule of peers and classmates; or exclusion from classes, schools or careers one would otherwise pursue … Suffering from dyslexia is suffering from a most unusual kind" (Eide & Eide, 2011, preface).

The following chapter provides information regarding the methodology for this research.

Chapter III: Research Design and Methodology

The purpose of this case study was to capture the experiences and perceptions of educators at a primary urban school who implemented a phonics-based reading program. The methodology used was a qualitative case study. This research followed the Yin Case Study process: plan, design, prepare, collect, analyze and share (Yin, 2009).

A narrative inquiry model was utilized for the teacher and administrator interviews. This study attempted to provide an understanding of the impact and implementation of *Wilson Fundations*® on children's reading capacity. The researcher sought to gather data to describe the educator experiences utilizing semi-structured interviews. Because the intent of the research was to understand the qualities of the *Wilson Fundations*® reading program and its influence to build student readability, the questions were open-ended and specific to their experiences/perceptions. Meetings with teachers and administration were scheduled. This inquiry process was best suited for this case study. Furthermore, a qualitative study allows for personal interaction during the interviews and allows for a holistic understanding of the complexities that the educators experienced. Being in the natural setting, meeting with the teachers allowed for authentic information gathering needed to fully capture what they and their students experienced during the implementation of *Wilson Fundations*®. The intent of semi-structured individual interviews allowed the interviewer to ask additional questions based on interviewee responses to ensure a deeper understanding of interviewee experiences. The researcher took copious notes and scribed interviews. Assurances were made that no identifiable interviewee information would be shared. In addition, *Fundations*® documents, student results and professional development materials were analyzed. The information gathered, a complete review of *Wilson Fundations*® and the interviews were utilized and categorized for analysis purposes.

Study Setting and Research Participants

The data for this research was gathered in an urban elementary school. State department public records indicate that the school housed 329 students during the 2017-18 school year. The total number of teachers in the school was 34.9 FTEs and 97.1% licensed; teacher/student ratio was 9.4 to 1. Student demographic data is shown in Tables 1 and 2.

Table 1. Student Race/Ethnicity Demographic Data

Race/Ethnicity	**Percent of School**
African American	19.8%
Asian	10.6%
Hispanic	15.8%
Native American	0.6%
White	44.4%
Multi-Race; Non-Hispanic	8.8%

Table 2. Student Sub-Population Demographic Data

Sub-Populations	**Percent of School**
First Language Not English	24%
English Learner	7.9%
Students with Disabilities	26.4%
High Needs	48.3%
Economically Disadvantaged	29.8%

Through a three-year process, teachers began to use *Wilson Fundations*® in their classrooms. Their interest stemmed from other teachers in the district who had been trained and were spreading the word about the impact on students. Moreover, the administration along with the teachers dug into the early literacy Formative Assessment System for Teachers (FAST) reading results for their students and that data revealed concerns. The early literacy component of the assessment provides results that measure Concepts of Print, Letter Names, Letter Sounds, Decodable Words, Nonsense Words, Sight Words, Sentence Reading, Onset Sound, Rhyming, Word Blending, Word Segmenting, and Oral Repetition. The concerns led teachers to have intra-district dialogue and more teachers became interested in implementing the program. Trained teachers trained others, and within three years all PK-2 teachers at the school were using the program.

The school has implemented *Wilson Fundations*®, a phonics-based reading program. The writers of *Wilson Fundations*® utilized the Orton-Gillingham approach, and there is research that indicates this methodology to be effective with students who are identified as having a learning disability, dyslexia. Therefore, the goal of the researcher was to examine the impact of the program with students in the primary grades. All K-3 teachers were invited to participate in the case study. The K-2 teachers have fully implemented the program and the 3rd grade teachers were invited to participate to gain their perceptions of the program based on the incoming 3rd grade students compared to pre-implementation of the program. Teachers were asked several direct questions regarding the number of years taught, number of years at the school, how they received training in *Wilson Fundations*® and whether there is evidence to suggest that this program helps students learn to read. Face-to-face interviews were conducted. Teachers were asked to provide consent to participate in the interviews. Reliability of the

research was provided, as a sole researcher gathered survey information and offered consistency during teacher and administration interviews.

Instrumentation

The researcher utilized two instruments, one for teachers and one for administrators. The interview protocol included the written consent of the participant. Questions included years of teaching experience, number of years at the school, number of years utilizing the reading program and a series of questions regarding training and what is different about students learning to read, as well as the impact of the program. The list of questions is included in this chapter.

The building principal was also asked specific questions, provided in this chapter, to include how many years as an administrator, how many years at the school, and the perspective on student foundational reading skills based on supervision.

Reliability and Validity

Interview (protocols) included superintendent, principal and teacher written permission. In an effort to reduce any researcher bias, interviewees were all asked the same initial questions. Elaboration and follow-up questions were asked when responses were limited. The goal of the interviews was to gather as much insight about the educators' perceptions and experiences and to be as comprehensive as possible.

A team of colleagues was a part of a focus group to provide input about the questions prior to the interviews. Questions were piloted with teachers and administrators who were not participants in the study, but held equivalent positions in a different district.

This purposeful sampling was specific to regular education classroom teachers who were trained and implemented *Wilson Fundations*® for the primary grades, PK-2.

Teachers/administrators provided written and verbal consent prior to participation. Participation was voluntary. Participants were not personally identified during the interviews; only the grade taught was identified for the purpose of categorizing responses. In addition, each participant signed the consent to participate. Interviews took place in a comfortable, private classroom. Interviewees were assured of confidentiality and were encouraged to answer questions they were comfortable answering. Teachers/administrators were offered the option to pass on any question. The researcher did not pass any judgment on responses or engage in critique. The researcher did not interrupt and asked clarifying questions as needed. Any reader of this research can reproduce the study, as all aspects of the interview protocol are transparent in this document. The interviews were designed to gather as much information as possible to gain a deep understanding of participants' experiences and perceptions. The researcher also thoroughly reviewed the reading program, *Wilson Fundations*®. This included the protocols outlined within the program, the lesson sequence and scope of the instructional progression. This preparation was intended to be helpful during the interviews in the event that educators referred to protocols in the program; researcher familiarity was beneficial. Questions were asked that could be answered positively or negatively and without leading or containing bias. The researcher's ability to personally interview each educator provided dependability, as the interviewer was the single contact who captured all aspects of participant responses, and honestly represented the findings. All field notes/scribed responses/journaling were kept in researcher's locked cabinet without personally identifiable information.

Data Collection

All teachers teaching Grades K-3 and the principal (13 subjects) received notification of the study and an introduction from the researcher in their mailboxes, distributed by the school secretary. This letter explained the purpose of the study, why the school was selected and the

time-boundness of the study, winter 2019. Participation permission forms were included so that teachers could provide a signature. Upon receipt of the signatures, visitations to the school were scheduled and personal interviews were set up with written consent from the participating subjects. According to Yin (2009), recordings may not be a viable option when interviewing research participants. Therefore, each interview was not recorded, as this may have limited the participant's comfort. The researcher scribed verbatim responses. Interviews were expected to take up to an hour. The researcher began with the identified questions, shown at the end of this chapter, and sought elaboration and asked follow-up questions in order to seek clarification and thorough understanding of responses. Upon completion of each interview, the researcher spent time annotating the interview to capture the perceptions and experience of that educator. The immediacy of this process contributed to the validity of the data.

Limitations

This study was limited to the experiences of students and teachers at an urban elementary school in the Northeast United States. It was also bound by the specific time used to collect the data and by the location, a single elementary school. The researcher understands that perceptions can change in the future, thus the research was also bound by the timing of this research and by the specific participants during the time of research. The information from this small sample of educators was not representative of any broader scope, nor generalizable to a broader population of educators. However, it remains that a small study is a building block for future studies, and thus is useful in future research.

Human Subjects Protection

Acceptance from the Seton Hall University Internal Review Board was sought and found not to be in the purview of the IRB, as this was a non-generalizable single case study. The

invited subjects included the principal and K-3 grade level teachers at the school. There were 13 educators who were invited to participate in the study. Superintendent and principal permission were sought and granted. Participants gave written consent for participation. No student personal identifiable information was sought.

Data Analysis Plan and Coding Scheme

The instrument used to sort responses was an open coding system. This allowed for labeling and categorizing the participant survey responses.

The researcher, as the sole interviewer, organized the information provided prior to analyzing the thread lines as well as any outliers. This process led to identifying patterns found. The data collected from the interviews was transcribed without personal identifiable information. Spending time to review the responses prior to coding was important as the researcher became intimate with the information that was gathered. Interview responses were annotated with teacher/grade level or administrator and categorized for similar responses. Color-coding of the notations and categorization further aided the researcher in the data analysis.

The researcher embraced the process to dig deeply into the data, as she was the tool for gathering the information. The intent was to understand what, how and why and categorize common experiences or perceptions. Various methods were used to analyze the data, including initial annotation of responses and field notes to identify themes. This preparation led to the researcher's ability to use a coding scheme. The researcher reviewed the attributed codes with a colleague to ensure that there was no bias. As the data was categorized further, it was expected that this exercise—close reading of the details—would lead to commonalities and any outliers among the perceptions and experiences. The researcher expected to be able to discuss the

findings in detail, to elicit meaning from the responses and organize the information in a meaningful manner. Common relationships were defined via detailed coding, including the intensity of the common responses. The narrative approach to qualify the results provided meaningful information, as it was not a large data set. It was expected that participants would describe the benefits and limitations of the implementation and application of *Wilson Fundations*®. The researcher looked for causal links about how and why the school adopted the *Wilson Fundations*® reading program. If cause-effect relationships were included in the evidence gathered, then the researcher included the information in the narrative reporting of the results. It was critical that the researcher reflected upon the meaning of the participant responses immediately after each interview. Careful annotation of the responses from the face-to-face interviews assured the validity and authenticity of this case study.

Protocol for Interviews with Teachers and Principal

Topic guide for questions: timing/previous perceptions/training/outcomes experienced:

- Introduction was made, described the purpose of the interview, sought affirmation from interviewee that they were volunteering and written consent was given, reminder that the interviewee could stop at any time, guaranteed confidentiality, identified teaching position, and interview was specific to *Wilson Fundations*® reading program.

Teachers

- How long have you been using *Wilson Fundations*® in the classroom?
- How did you decide to be a part of the training or not?
  - If not trained, will you be trained?
- How would you describe whether the training was successful?

- What is successful? If not successful, what additional training is needed? Areas of expertise?

- How comfortable are you with all aspects of the program?
  - If not comfortable, what else is needed to increase comfort?
- How, if it was changed, has your instruction changed?
  - What do you do now that you were not doing before?
- What, if anything, changed for students when the program was implemented?
- What, if any, are student perceptions about the program?
- What, if any, are parent perceptions about the program?
- What, if any, differences do you notice in student abilities when they enter your grade (1-3)?
- Explore additional follow-up questions as needed.

Principal

- How long have your teachers been using *Wilson Fundations*® in the classroom?
- How was the decision made for teachers to be trained in the program?
  - If someone is not trained, will there be training?
- How, if at all, has the instruction changed?
- What, if anything, changed for students when the program was implemented?
- How was the teacher transition experience?
- What assessments were used before and after the implementation?
- Are students better off with this new program? Why or why not?
- Have there been moments of "aha" and satisfaction with the new program? If yes, please share the teacher behaviors/student behaviors in those situations.
- What, if any, are student perceptions about the program?

- What, if any, are parent perceptions about the program?
- What, if any, differences do you notice in student abilities when they enter the next grade?
- Explore additional follow-up questions as needed.

Chapter IV: Findings

Background

The purpose of this study was to seek to understand the experiences of primary school teachers at an urban elementary school who have instructed reading with the *Wilson Fundations*® program, revised in 2012. I focused on how teachers' experiences have shaped reading instruction at the school. Because the study was organized with a semi-structured interview protocol, relevant follow-up questions were included to gain further understanding. The four questions were asked of all interviewees, and, based on their responses, a follow-up question was posed when seeking further clarification.

The study was guided by the following research questions:

1. How do teachers describe first learning about *Wilson Fundations*®?
2. How do teachers describe training for implementation of the program?
3. How do teachers describe their experience and the impact of teaching using the program?
4. How do teachers describe any challenges?

Building Administrator question:

1. How does the principal describe the factors that led to the adoption and implementation of *Wilson Fundations*®?

At the time of the study, participants varied in their number of years of experience using the reading program, from two years to over 10 years. The reading program's teacher manual includes the scope and sequence for the particular levels of instruction, specifically establishing what the students are expected to do by the end of the grade. This detailed information is provided in the manual to aid the teachers in the implementation of reading instruction. This

includes protocols for working with colleagues in Professional Learning Communities. This level of detail provides the lens for the vertical alignment of what students are expected to learn for each grade band—PK/K-1, 2-3. Unit overviews provide the unit synopsis, procedures, differentiation, notations, tips, and a learning activity. The complete daily lessons follow the overview and provide direction to the teacher.

In addition to the above, the program was built on specific non-negotiable required instructional core beliefs, outlined in the introduction. The teacher must:

- *Establish a learning-focused classroom, maximizing instructional time with routines, reliable transitions and protocols that build student capacity to be efficient.*
- *Commit to a structured learning plan* (a daily schedule that allows for consistency and fidelity for the instruction).
- *Study the program procedures and spend time familiarizing/preparing for learning.*
- *Model a wherewithal of the learning as it occurs – respond to what is seen, touched and heard to ensure student understanding* (teachers need to be vigilant and keenly aware of learning in the classroom and routinely intervene as necessary).
- *Engage students in the reflective process.*
- *Visualize the learning before it occurs, anticipating mishaps and being ready; build craftsmanship.*

The Interviews

There was an overarching sentiment that was common among all participants in the study that is further described in the findings. The details are articulated in the review of each question as was determined from coding participant responses. In addition, artifacts were provided by the school administration to support their decision to move forward with implementation of the

reading program; specifically, the results from the *Formative Assessment System for Teachers*™ mandated by the district and utilized to assess kindergarten reading-readiness. The bar graphs show student results before and after implementation. Also included, minutes from a visit to another school where the teachers were able to observe classroom teachers, experienced in *Wilson Fundations*®, instruct their students. The minutes provide insight into their experiences the day of the visit, as it was an opportunity for building teacher capacity to become familiar with the program and see what instruction looks like for students and teachers.

The teachers' years of teaching experience differed; one had under five years of experience, two had up to 10 years, one had 11 years, seven had over 20 years of experience, and one had 41 years at this same school. Therefore, the experience levels varied among the teachers interviewed. The principal, having been at the school for half of his nine years in education, had hired 45% of the teachers who were now using *Fundations*®.

Two days were allotted for the site visit and interviews. A third day was added to interview the principal, who was not available during the initial visits. The interviewer, sole researcher, met with teachers at their urban elementary school. Interviews lasted approximately 45 minutes and took place in private rooms during teachers' normally scheduled non-teaching times. Participants were reminded about their right to opt out of the interview and were asked to provide written permission. The interviewer scribed participant responses and informed participants that there would be no recording. The interviewer also reread the dictation for accuracy.

Research Question 1: Please describe how you first learned about the *Wilson Fundations*® reading program.

Teacher Current Position	When First Introduced to *Wilson Fundations®?*	Introduced to the Program by Whom?	# of Teachers Who Had Similar Introduction to the Program
K	Less than 3 years	*Literacy coach & informally by colleagues*	5
Grade 1	6 years	*Wheelock College distributed materials as they were conducting a study at the school*	1
Grade 1	12 years	*The materials were purchased by the school as a classroom resource*	1
Grade 2	10 years	*Interventionist*	1
Grade 2	4 years	*The materials were purchased by the school as a classroom resource*	1
Interventionist (offers direct instruction for students who are in need of additional reading instruction)	14 years	*A former colleague who was extensively trained in phonics*	1
Literacy Coach (offers direct professional learning to the teachers)	7 years	*Leslie University*	1

Responses to this question were similar for the study participants at the school. They were introduced to the program at different times during their careers. The chart identifies the timing of the exposure to the program for the interviewees. It provides an overview of the varied times that the teachers learned about the program.

The kindergarten team, 45% of the interviewees, uniformly learned about the program from the literacy coach. This was the one group who had not used the program prior to the literacy coach being hired. The teachers previously exercised sole discretion over teaching reading. This was the practice when the principal first arrived at the school and was continued until he hired the literacy coach.

The interventionist works directly with students who are struggling readers, and was also credited by a colleague for bringing the program to the school. Two of the teachers, 18% of the interviewees, credited universities for the exposure to the program. One was the literacy coach, who learned about the program while attending Leslie College. The other, a first grade teacher, had learned about the program when college students from Wheelock used it during their visits to her classroom six years prior. The four remaining classroom teachers had some previous exposure to the program, as it was available as a resource when the school was structured as multi-age classrooms. It is not uncommon for schools to have varied materials.

Faith, currently a second-grade teacher, was introduced to the program by the interventionist when they used it to teach in a multi-age first and second grade classroom six years earlier. At the time, the first and second grade teachers used the program in small groups as a reading station, a location in a classroom for varied practice/instruction. It was not used for whole class instruction. Gal, a beginning teacher in her second year, had been introduced to *Wilson Fundations*® four years earlier when she did her internship at the same school. This

novice teacher knew no other program, as she was introduced to it from her very first experience. She was then hired three years ago.

The literacy coach who works directly with teachers to build their teaching capacity had been introduced to *Wilson Fundations*® seven years earlier while attending Leslie College. Her knowledge of the program along with her analytical skills were key features in the decision to hire her. Based on her experience and knowledge, she identified her commitment to the program and the need for phonics instruction.

June, a first grade teacher, was introduced to the program six years earlier by students from Wheelock College who were providing reading lab instruction to her students. These students provided samples of the program, charts, and cards, as well as dynamic reading instruction. June was also aware of the Wilson company's reputation, as her special education teacher colleagues were Wilson-trained and used their reading intervention program to teach students with identified reading disabilities.

Hope, the literacy interventionist, exhibited enthusiasm. She was introduced to the program over a decade earlier. She reported that a colleague who had been trained in the Orton-Gillingham approach told her, "You need phonics. What are you doing with whole language?" She further taught Hope how the alphabet works and about vowel teams. "She introduced me to the science of decoding and a light bulb went off in my head. I learned about vowel teams and phonemes and realized we need to be explicitly teaching," Hope explained. Her colleague shared the findings of what she learned while at Harvard. These discussions led to a significant "aha" for Hope. This new knowledge convinced her that she needed to teach reading differently. She changed her instructional practice and began using *Wilson Fundations*®.

The kindergarten teachers all felt compelled to try the program because the first-grade teachers raved about it. The first-grade teachers had personally requested that kindergarten teachers utilize it. During informal opportunities, the first-grade teachers specifically told the kindergarten teachers that they noticed student progress in reading due to the program and that they should try the program. This effort, along with the literacy coach also pushing, led the kindergarten team to collectively take the plunge. It was teacher-initiated.

One kindergarten teacher, Core, was outspoken about her resistance to the program. She was a 40-year veteran. Core opened up and said, "I didn't want to do it, but the literacy coach eased me into it." Core stated that the literacy coach did not pressure or push; she encouraged and supported her. This involved reviewing the sequence of lessons and answering questions. The coach supported the PK/K team as they dabbled with the materials and tried some lessons. She also exposed them to the program through videos and a visit to witness live demonstrations at another school. Upon understanding the program, the kindergarten teachers' confidence increased. This varied exposure was experienced by the PK/K team.

Another kindergarten teacher, EJ, stated that the literacy coach had eased him into the program as well. The kindergarten teachers had similar responses. Another kindergarten teacher, Bee, was skeptical and thought, "They are not going to learn 200 words by the end of the year. But they <u>CAN</u> [emphasizing *can*] do it! I was a non-believer."

A common thread began to surface amongst the kindergarten teachers—Ane, Bee, Core, Dee and EJ. These teachers were the last to implement the reading program, and although resistance was manifested initially in avoidance, they were ultimately persuaded and began to use the program.

The consistent use of the reading program in the primary grades began when Ilsa, literacy coach, was hired. The first and second grade teachers used the program with fidelity for four years and the kindergarten teachers had just begun their first full year of implementation.

Even though their colleagues in other grades were using it, the group of five teachers who taught the youngest children did not jump eagerly onto the bandwagon; they were not initially open to using it. The resistance subsided as Ilsa began to show them how the program worked, but it took time—several years—for them to be open to the idea of using it. The literacy coach's main concern was teacher buy-in. She began to strategically share the district assessment results and began to convince teachers that the program would provide the needed phonics instruction. She shared with teachers why the program would be vital, and those who were willing to try it did so and saw results. Ilsa then shared how the explicit instruction was making a difference for those who were using it. This led to more teachers trying it and then it took off; most of the primary teachers were using it and colleagues raved about it. The last primary group to try the program was the PK/K teachers.

The principal trusted Ilsa to bring teachers along and this is what she set out to do upon her arrival at the school, four years prior. Ilsa referenced the district screener results, *Formative Assessment System for Teachers*™ (FAST), a series of reading assessments used to measure kindergarten reading readiness as the tool used to bring about change in reading instruction. A detailed description and sample FAST student data charts, Figures 2-6, are included at the end of this chapter. Ilsa also indicated that there were other schools in the district raving about the program and the impact on student reading.

> *The teachers did not want to assess their students and hesitated to administer FAST. However, it was a district initiative and this non-negotiable became the tool used to convince teachers that they needed to teach phonics-based instruction. Teachers were not using standard measures to determine student learning. They were used to self-*

selecting how to assess letter identification. Prior to utilizing Wilson Fundations® *the kindergarten teachers had never discussed phonics instruction.*

The FAST results became the lever used to propel these teachers into teaching reading using *Wilson Fundations*®.

Their current experiences with the program have led to a unified commitment to use *Wilson Fundations*®. This commitment is evidenced by their professional goals as they worked together to gain deeper understanding and regularly met to discuss reading instruction.

Research Question 2: Please describe any training you had for implementation of *Wilson Fundations*®.

With the exception of two participants, teachers did not receive formal training from the writers of *Wilson Fundations*®. This was the dominant response. Two of the educators had received training, the interventionist and the literacy coach. The interventionist had received the most training by far, as she worked directly with the students who qualified for reading intervention, providing double doses of phonics reading instruction.

Another common thread included the reliance on the literacy coach to support instruction utilizing *Fundations*®. The kindergarten teachers received a day of training, provided by the school's literacy coach. The literacy coach went through the components of the program, routines and materials. They had also previously heard from their first-grade colleagues about the structure of the program. In addition, Ilsa, the literacy coach, had organized a visit to another school so that the kindergarten teachers could observe experienced teachers instructing students.

The teachers visited different classrooms taught by experienced *Fundations*® instructors. The literacy coach purposely chose to visit a school where the routines were solid so that the teachers could see model lessons, with the intent that they would emulate the instruction. The kindergarten teachers were able to debrief with their colleagues and the instructors after the observations. The PK/K teachers were able to share their takeaways from what they observed.

The artifact included at the end of this chapter captures the takeaways from that experience. That document provides the minutes of what the teachers experienced when they visited the school. Teacher descriptions include information regarding student behaviors, teacher behaviors, observations about the classroom and additional thoughts that struck them during the visit. Teachers found the visit beneficial and agreed to return at a later date once they had an opportunity to implement *Fundations*® in their own classrooms. As agreed, names have been removed from the artifact.

During the interviews, the PK/K teachers had forgotten that they did have some in-house training as well as the visit to the other school. They were initially very quick to indicate that they had no training. Upon recollection, no kindergarten teacher identified these experiences as helpful; rather, they credited the literacy coach. The responses were identical: "I had no training. The literacy coach walked me through it." This last group to be trained did not recognize that their time with the literacy coach and their off-site visit were part of training. Their enthusiasm surfaced when they discussed how students were currently responding to learning to read (addressed in the next question).

Faith, a second-grade teacher, stated that she did not receive training. Gal, also a second-grade teacher, did not receive formal training, but learned from colleagues when she interned at the school. Hope, the literacy interventionist, who works directly with children, had attended multiple trainings in the summer. She participated in sessions offered at Oxford. She stated, "There are different layers to the training. We go deeper. I love it." Ilsa, the literacy coach, who has been responsible for helping teachers implement the program, participated in a one-day training and watched online training videos.

This approach along with the enthusiasm of colleagues who had already implemented the program gained momentum, and more teachers became open to the idea of teaching differently. Within three years all PK-2 teachers were teaching utilizing this scientifically researched approach to teaching reading—namely, phonics-based instruction.

June, a first-grade teacher, learned how to use the program by reviewing the materials and credited Ilsa for her help. She also stated, "We had an in-house training for a day." In addition, this first grade teacher went on, "We now have supported PD through PLC and team meetings when we work with our literacy coach. We are much more reflective and intentional. Everyone is using it." This is very exciting for the kindergarten team. They discuss lessons together and review student work. They actually decided to make the implementation of the program a part of their evaluation. The literacy coach also attends, and they work through any questions together.

June shared that she didn't think they were using the program to its fullest capacity. She is aware of resources that she hasn't tapped into. She named a few: online resources, assessments, and cue cards for teachers.

Kam, also a first-grade teacher, indicated that prior to using the program she had some phonics-based reading instruction training, which was helpful, but she did not receive training. Her basic understanding of phonics instruction provided familiarity and supported her efforts to try the new reading program. Gal, a second-grade teacher, stated that the literacy coach is the go-to person but that she would "love training." Although teachers did not have formal training directly from writers of *Wilson Fundations*®, the internal trainings were provided by the literacy coach.

The principal stated that the dialogue began with teachers and they convinced each other to use *Wilson Fundations*®. "It was an organic process," he said. He has not had any training and relies on his literacy coach to work directly with teachers. The principal strategically hired his literacy coach, four years prior. He identified two strengths that Ilsa possessed: she had strong knowledge about the phonics-based program and she had data analytical skills. She also had experience utilizing software to gather student learning information. She was a part of the principal's leadership team and was charged with convincing teachers to adopt the Wilson phonics-based reading program.

The principal's account of the process of implementation aligns with teacher recollections. There was no formal process to train or implement the program. It took several years for PK-2 teachers to be on the same page about using *Wilson Fundations*®. The principal is pleased with the powerful manner in which the literacy coach planted seeds, supported teachers and highlighted student needs. The principal valued teacher-led decisions and they comfortably shared their doubts and their current excitement, all because students' reading is unequivocally apparent. He is proud of his teachers and of the progress students have made.

Research Question 3: Please describe your experience and any impact on teaching since using *Wilson Fundations*®.

Each participant specifically indicated that their learning environment had changed. Teachers responded to this question in various ways. Some spoke specifically about changes in teaching and learning. Others spoke specifically about the physical changes in the classroom, and all spoke of the increased reading ability of their students.

Ane indicated that the materials and activities that were provided had contributed to student learning. She changed her schedule and had a literacy block set aside because the program required the time. She noticed that kids' attitudes toward literacy had changed from

uncertainty to confidence. The students were not asking for help. She saw them applying the strategies independently when reading.

Bee, another kindergarten teacher, noted that she now has many materials in the physical environment: "post-it materials, letter charts, visual cards, alphabet chart, and it's a fun environment with the characters (baby Echo)." She said that she has everything she needs. The hands-on materials help students focus their attention on each letter and there's alignment to language. Bee also shared that there is lots of interest from parents. "They have had a very positive reaction." She had parents who wanted to use the program at home. She further added that as a result of using the program, children now "have a routine and enjoyment. They love the visual cards and repetition; saying sounds in unison; it's not bland; they are excited to try something new."

Core, the kindergarten teacher who was initially resistant, talked about the handwriting that is a part of the program; specifically, letter-object correspondence. "It took half a year to see the difference for students," she said. She was transformed. She was blunt when sharing that she initially didn't want to use the program. She was allowed to make that initial decision and Ilsa continuously nudged and built Core up, encouraging her to use *Fundations*® until she began to come around to the idea. Ilsa worked with her and Core committed to using the strategies in the program. This fidelity led to visible results in just a few months. She had new learning and she valued the impact on students. She was a part of the PK/K team who supported each other through implementation.

Core shared that *Wilson Fundations*® is "woven through all the curriculum in her class. You can see it when kids write their names. They use magnet tiles for consonant words with

boards and the language is woven in. Students picked it up quickly and accurately. They are able to do this earlier in the school year."

Dee, a PK/K teacher, shared that she thought it was "teacher-directed and extremely traditional." In her country, Brazil, "kids are more free," she explained. However, now she sees the difference. "With explicit teaching, students are learning tapping, blending, segmenting, [techniques embedded in the program that aid student reading] and there are lots of opportunities to interact," she shared. Dee sees that her students are learning. EJ, another PK/K colleague of Dee's, stated, "kids are picking up sounds really quick; x, e, i, are tricky, but movements are helpful. The students remember the sound even if they forget the letter name. It is like a drill with movement."

Dee, like Bee, also stated that there are lots of materials and resources that assist students to develop their reading competence. "Student engagement increased." The visual components help the students as she sees them using the tools.

EJ found the program interactive. "The big poster along with the visuals and puzzle work help students learn their sounds. They draw and write in their journal. It makes reading accessible," he shared. Faith, a second-grade teacher, shared, "now kids come to me being able to identify letter name and letter-sound correspondence. They can blend letters and for second grade that has been amazing. They are ready." Gal did not hold back her enthusiasm. "I love *Fundations*®. It's a very clear program. It targets spelling rules in a quick mini-lesson. It is a concrete program. Even for struggling students it is helpful. There are clear skills to apply across reading and writing." She explained, "Students would describe it as fun," and went on to add, "They don't recognize it's a program. It's a natural conversation about word rules. Students do a buddy check every Friday. They do an excellent job." Gal went on, "It is very

noticeable when students have *Fundations*® in the prior year. They have a strong understanding of short and long vowel sounds."

Hope noticed that her instruction in reading, writing, spelling and math became more direct and explicit due to *Fundations*®. She became mindful of the strategies that helped students learn and it transformed her instruction. This reflection led her to provide clarity and direct instruction in other content areas, resulting from the positive outcomes for students leading her to apply the same explicitness.

Hope realized that she had holes in the scope and sequence of instruction. This new knowledge was "a real help for planning," she said. She witnessed that spelling, reading and writing improved. She actually was surprised that it would be fun for kids to learn phonics. Hope went on to provide details about how students use magnetic letters and the program adds kinesthetic approaches. She was impressed with the linking of phonics and spelling. She also shared a favorite technique for teaching writing in a meaningful way by using one's imagination and translating thoughts to letters and words.

Ilsa shared the difference she has seen in the classroom now that the primary teachers are using *Fundations*®. "It [instruction] is more meaningful, because it's explicit and clear. Students are now using sound-symbol cards and they recognize the letter name and sound instantly. Even the most struggling learners are able to identify them." She then shared a very specific example about the change in the learning environment for students. She reminisced about two extremely challenging students who entered second grade having been taught with *Fundations*®. These students were able to break words apart correctly and they confidently shared their knowledge. No one expected students' level of retention from year to year. This was new for them. The teachers were now able to build on foundational reading skills each year.

June remembered that there were just assumptions about where students should be prior to utilizing *Wilson Fundations*®. She found the program to have diagnostic components that assist in the learning environment. She can hone in on a weakness and target the need with appropriate intervention. She has found that since her kindergarten colleagues are also using it, the students entering first grade are "absolutely ready to read and they move along faster. We take time during morning meeting and during the literacy block that allows the time for the use of *Fundations*® materials." The teachers established a reliable routine. June's account of the before and after implementation:

> *In the past it was really hard to build student stamina but now we are faithfully following the program and students are able to build their stamina because it gives the structure needed. They know the rules to spell words and they actually try sounding out unfamiliar words. They are doing the heavy lifting, not the teacher pushing. Kids enjoy it. It's like a disguise. For a struggling student, it's an aha moment—I can try spelling a word that I couldn't a month ago. It gives them tools to tackle words. Students who are ready can expand their writing as well.*

Kam had a similar experience. She found that the systemic, step-by-step approach is beneficial. In addition, she found that the groups of sentences related to the lesson were helpful as they linked the lessons. "Tapping really helps ground them in listening to the sounds. They all know digraphs, glued sounds, blends, magic "e," and students refer to the charts. The program repeats and revisits. It is especially good for those who need reinforcement. It struck me—students already knew letter-name and sounds. It is so crucial for the ones who lack the ability innately. Explicit instruction really is the answer and I am grateful for this program."

Question 4: Have you encountered any challenges with the program?

Ane referred to the explicit teaching that is required. "Trying to fit all the pieces in; I feel like I forget that there's other curriculum." It is not a surprise that any time a new program is used, there is unfamiliarity and it takes planning and studying the program to be able to understand the components.

Ane shared that she strategically thinks about how to set up each day to fit in the required daily lesson components for the day. Bee shared the same challenge as Ane. In addition, Bee stated chronic absences as a major challenge. However, she stated that the workbooks provide flexibility of print materials for unique needs. She wished that parent resources were provided.

Due to a transient population, Core stated that she gets lots of new students, "but they do catch on." She also indicated that another challenge is the need to share resources with colleagues. Since materials are expensive, she doesn't have a complete set. In addition, students with fine motor skills issues do have difficulty with the tapping so she has to improvise with other multisensory approaches so that they can be successful.

Dee's challenge is that there is so much expected in the program and she has to "cherry-pick" what she will teach so that she can teach the other curricula. EJ's perspective was that he wishes there were more opportunities for student-to-student interaction. The program is designed as whole group instruction. However, he then shared that he's had parents tell him that they have witnessed their children sounding out words at home.

Faith has found that students with emotional disabilities tend to destroy the hands-on materials so she would prefer materials that weren't so easily ruined. In addition, because the program offers so much, she can't get through all the lessons in a week. "There's not enough time. The weekly launch takes up a lot of time, so I have to prioritize. Other than these issues, there aren't challenges with students learning to read. It's so important. It builds on itself year after year and it really helps the kids."

Hope indicated that it was a challenge for her in the beginning; how the program was organized, and the coordination of each lesson took time to become familiar with. Ilsa, who has assisted teachers transition to using *Wilson Fundations*®, is now faced with the 3rd grade as

those teachers are not using the program and she is concerned because she sees that there are students who continue to need explicit instruction, especially in spelling. This program does include 3rd grade, but this school has implemented it in PK-2 thus far. This is her current challenge, to move the phonics program into the next grade, 3rd.

June also stated, "fitting it in with everything else is a challenge." She breaks up the routine and is aware of when students are pulled out of her class for other needs; she has to manage the schedule to make sure that students are present for the lessons. She found that parents were nervous at first, but they actually see the progress. "The program is really solid. I would fight for it; it's based on Orton-Gillingham, and teaching to the whole group benefits everyone; it's a double dose."

Kam said that there weren't any challenges jumping out at her, but she makes decisions about what pieces of the lessons are needed depending on the students. If kids are solid, she moves on and differentiates as needed.

Analysis via Themes

The teacher responses revealed commonalities that surfaced during the coding and analysis process. To fully understand the findings of this research study, I found it essential to categorize teacher responses. This led to providing another lens into their experiences at this urban elementary school.

Five themes emerged during the interviews; categories include: *Students Thriving*; *Structure, Clarity and Abundance of Materials*; *Literacy Coach's Role*; *Instructional Flexibility: Differentiation* and *Working Together, Developing Coherence*. The following section provides details about the themes.

Students Thriving

A compelling similarity was evident throughout the interviews. Each interviewee described a significant improvement in students' ability to read and each attributed the results to implementing *Fundations*®. Dee, a PK teacher, indicated that she sees students using the strategies she teaches them to make sense of the words they are reading. "I thought it was going to be extremely traditional because there is teacher-directed instruction, but it is also very student-centered." They continuously practice their reading skills.

EJ shared that the strategies stick and students remember them beyond the day of instruction. He further added:

> *It is exciting. Kids are picking up sounds really quick and the movements help. They do drills with movement. The environment is now really interactive. The big posters help the students practice. Students have puzzles to work on where they look for sounds and draw and write in their journals. It is really accessible to all learners. Parents told me that they witnessed their children sounding out letters to read words. They are very excited. Parents are also using the letter chart at home.*

Ane, also a kindergarten teacher, stated:

> *I notice a difference in students. They use the reading strategies. They don't ask for help anymore like they used to. They used to say, "can you help me" because they didn't know how to figure out a word. They are successful now.*

The team of teachers who held out the longest are now also big fans of using *Fundations*®. Bee initially considered herself a non-believer. However, after using it for a year, she was also enthusiastic:

> *I feel like the children have a routine and enjoyment. They love the visual cards and the repetition. We say sounds in unison and we are successful together. It's not bland. They are excited to try reading. They aren't afraid to read words.*

Core, the most veteran teacher who was interviewed, was direct about what has happened:

> *I can see the difference in kids. I can see it when kids write their name. They use magnet tiles and boards to read words. The program is consistent for each year. The letter-*

sound-object activity is a great tool. Students picked it up quickly and accurately. They are able to do more reading earlier too. There are lots of new children and they also catch on.

Kam, a first grade teacher, shared the following:

Students now enter Grade 1 already knowing letter name and sound routines. This struck me. Learning to read is so crucial. For the ones who lack the ability innately, the explicit instruction really is the answer and I am grateful for this program. It's a step-by-step approach that is beneficial. Learning the rules is helpful for the brain to figure out how to read words. I use tactile and facial, hand-mouth motion. The lesson provides groups of sentences related to the lesson so kids can practice and it's all linked. Tapping [a program technique] really helps and grounds them in listening to sounds. Kids now see the incremental connections that build.

Another first grade teacher, June, shared that prior to implementation of the program, students would enter first grade with gaps in their reading knowledge and in their ability to read. However, with the continuity of using the phonics-based program, students have the stamina needed for their brains to work through combining letter sounds when reading words. They are now able to write their own sentences because they use the phonics reading instruction to write also. The rules they are taught are reliable and they are able to expand their writing. Prior to this reading program, students did not have the knowledge needed to tackle words and it was very difficult for them. This program is especially beneficial for someone who is a struggling reader. June further indicated that students are aware of their own progress. They see that they do read harder words in a short time and remember when they couldn't read them. The program gives the students tools to tackle the words. She described the program as learning in disguise. The students are doing the thinking and using their own brains to do the heavy lifting independently rather than a teacher pushing them. Students are able to move up multiple levels in reading. Parents also see the progress. Parents are provided a specific parent letter and there is homework that the students do as well as completing a reading log.

June further emphasized the benefits of teaching reading with this phonics-based program as she exhibited strong emotion:

> *Now that kindergarten is teaching reading with* Fundations®*, the students are absolutely ready to read and they move along faster. Kids enjoy it. Parents see the progress. The program is really solid. I would fight for it [said with a stern look]. It's based on Orton-Gillingham and teaching these skills to everyone, whole group; it's like a double dose for students who struggle with reading. It benefits everyone.*

The effects of implementation in PK/K and first grade has had an impact on second grade. This sentiment is shared by two second grade teachers. Faith shared that:

> *Kids would come to second grade with different experiences and gaps. Now they all begin with* Fundations® *and they already have letter-name and letter-sound correspondence. They can identify blends in second grade. It's amazing. They are ready! The progression of lessons make sense and it's doable. Parents used to think that the words were too easy, but the program allows kids to choose.*

Gal, also a second grade teacher, said:

> *I love* Fundations®*. It is a very clear program. Students like it. It's fun. For students who used it before, it is noticeable. They have a strong understanding of short and long vowel sounds. It's so important to use* Fundations® *as it builds on itself, year to year. It really helps the kids. It targets spelling rules. They don't recognize it's a program. It's a natural conversation about word rules. Even when they use the board, students do a buddy check every Friday and for the most part they do an excellent job. It can be done in quick mini-lessons. It is concrete and has clear skill development to apply across reading and writing. Even for struggling students, is very helpful for those students because it's concrete.*

The reading interventionist, Hope, had the most years of experience utilizing *Fundations*®. She used it in the classroom ten years ago before becoming an interventionist.

> *I saw changes in reading, writing and spelling. Kids were very interested! The activities were fun. I was surprised that the kids thought it was fun to learn phonics. They actually cooperated. The kids loved the white boards with magnetic letters. The program is clear. Parents were happy too. They latched on and were happy that their kids were spelling. It has lots of strategies. A favorite is when kids use their imagination to visualize a story in their heads and translate it into letters, words, thoughts and ideas. I was impressed with how phonics was linked to spelling. The kids learn strategies for outliers that don't follow the rules and they are successful; there are lots of visuals and charts for kids.*

The literacy coach, Ilsa, was hired to address reading instruction and she recognized significant gaps:

> *There was a significant need in kindergarten. The students were below average in all areas of letter-name, letter-sounds correspondence and automaticity. There was no phonics instruction. Now, learning is meaningful. It's explicit and clear. Students use sound-symbol cards. They recognize the letter names and sounds. Even the most struggling learners are able to identify letters and sounds. The best example I have is that we have two extremely challenging students in second grade who had* Fundations® *last year. They are heard saying in the classroom, "I know this word" and they are also spelling correctly. It has strengthened Tier 1 instruction. They are able to break apart words.*

A common sentiment emerged in that students are receiving training so that they can apply these skills independently to read words phonetically.

Structure, Clarity and Abundance of Materials

Another theme that surfaced is that the program offers clarity and many materials. In certain grades teachers have to carefully adjust and prioritize the lessons without compromising progress. As they indicated, there is much richness in the program.

Faith, a second grade teacher, indicated that the structure of the program makes it doable. Each week a specific spelling pattern is introduced and homework supports the sentences that students develop. There is a family component—practice tests designed for the child to work on with someone at home. "The progression of lessons makes sense and it is easy to tweak and it's flexible now that we're familiar with the tools," Faith shared.

Gal, also a second grade teacher, indicated:

> *I love* Fundations*; it's a very clear program. The weekly launch takes a lot of time so I prioritize. I am able to do quick lessons. The program offers five days of weekly instruction and a component for practice at home. It is a clear program and can be done in quick mini lessons. There are clear skill developments to apply across reading and writing.*

The PK/K teachers provided similar responses. The program offers lots of interactive opportunities. However, as Ane indicated, there are a lot of pieces to fit in. Ane strategically

thinks about what to teach each day and how to set up the lesson within the allotted time. She expected that in time she would become more comfortable and not feel overwhelmed. This was echoed by her colleague, Bee: *There is so much to teach. I am still digging through the resources and figuring out all that the program has to offer. Each year I use a little more of the resources.* EJ, however, did not indicate that he was overwhelmed. June, a first grade teacher, echoed the challenge of fitting in all the lessons. She breaks up the routines in order to manage the schedule. She indicated that there are students who are pulled out for intervention so she strategically plans the lessons for the block of time when all students are present. She further stated that she is concerned that her colleagues are not fully aware of all the resources that are available with the program. She is concerned that it's not being used to the program's full potential. For example, there are cue cards for teachers and others are not aware of this resource.

Kam, also a first grade teacher, stated that she likes the structure of the program. *I like how it repeats. It revisits mastered skills as new skills are introduced. It builds.* The literacy coach fortified the same sentiment. *The teaching is now meaningful. It is explicit and clear. There wasn't equity before. The instruction varied and was not phonics-based. Now, teachers find that it provides equity and is designed to be clear to teachers and students.*

Literacy Coach's Role

It was clear that Ilsa was the expert in the building. Gal referred to Ilsa as the "go-to." Teachers rely on Ilsa as she pushes in during classroom instruction. Teachers are recognizing that they are growing in skills and experience. Teachers depend on their time with the literacy coach to collaborate and plan lessons. Not only did the literacy coach "ease the PK/K team into the program," she provided continued support. Ilsa created a culture of trust and demonstrated commitment to their success.

Ilsa shared that her goal was to have phonics-based instruction, specifically *Wilson Fundations*®, as the core reading program in the primary grades. She planted seeds for two years and strategically utilized the district's FAST assessment to create the urgency for change. Although this was met with resistance as the teachers did not want to continue to administer the FAST, because this was a district screener, their request was denied. This screener became the lever that the literacy coach used to convince teachers that they had to teach differently. Colleagues were energized upon experiencing the effects of *Wilson Fundations*®. In addition, there was a new energy amongst the most resistant group of teachers, resulting in a joint commitment. The PK/K teachers decided to support each other and grow together in the implementation of the new reading program. Their professional growth goal, as a part of their yearly evaluation, is the implementation of *Wilson Fundations*®. Ilsa explained that their commitment evolved.

> *It struck me that there was a significant need in the PK/K team. My biggest concern was teacher buy-in. The teachers said that they know best practice and didn't want to administer the district screener. They wanted to ignore the results, but we could not stop administering the screener. It took two years of planting seeds. I took them to another school to see the program in action. They met with teachers after seeing the instruction. I showed them how the program is structured. I took them on a learning walk through first grade. By last year they were willing to try it. The teachers now look at student growth. This is a big step for the school. They test the students in the fall, winter and spring. This year, they are committed and the* Fundations® *instruction is grounded in their evaluation goals.*

"It's been great for kindergarten. I love the curriculum work as a team. All of PK/K wants more training," Ane shared. This was echoed by the most senior member, Core, who indicated that they now support each other during PLC. "I now weave components of the program into all curricula."

The teachers have strengthened their relationships with each other and with the literacy coach, who has only been at the school for four years. A professional learning environment of

sharing and building each other's knowledge has been established, leading to coherence in reading instruction. There is undeniable energy for both teachers and students, along with increased hope. "What we were doing before lacked phonics. There wasn't a coherent approach to teaching reading. It's been exciting," kindergarten teacher Bee shared. They see that their instruction is making a difference. June, a first grade teacher, added:

> *We now have supported professional development through PLC and team meetings. We work with the literacy coach. I am much more reflective about teaching reading. It's intentional and everyone uses it!*

Instructional Flexibility, Differentiation

Second grade teachers indicated that the program is flexible. Faith observed that "after becoming familiar with the program I found that it is easy to tweak." Gal, also a second grade teacher, indicated that she prioritizes the weekly launch and is able to do quick lessons. Kam, a first grade teacher, also picks and chooses what lessons to teach based on student need. They utilize student need to make differentiated decisions. This is also evident for the educators of the youngest learners. Because the program has so much, Ane thinks strategically about each lesson and how to fit in the needed components, as she desires to do "a solid job." Bee also indicated that the pacing in the workbooks offers flexibility for unique needs. Dee likewise picks what is most needed, as there is so much offered in the program.

Teachers used to assume what levels kids were supposed to be at the start of the year. *Fundations*® offers diagnostic information and teachers are now able to hone in on a weakness with targeted instruction, allowing them to differentiate instruction appropriately.

Working Together, Building Coherence

The educators of the youngest learners, PK/K, were made up of 80% veteran teachers, and decades of experience ranging from over two decades to over four decades. They were also identified as the most resistant. However, due to the strategic work of the literacy coach, they

became open to the idea of impacting children's reading ability. As Core indicated, she had seen many new initiatives and changes over the years; she considered *Fundations*® to be a fad and planned to hold out until it passed. However, because of the patience of the literacy coach along with the pressure from first grade teachers who wanted PK/K to start teaching this phonics program, this group of teachers began to listen. They held out for years. The mission given to the literacy coach from the principal was clear: to change teacher reading instruction. And Ilsa set out with gentle nudges. Even when her colleagues told her "no," she continued modeling and confronted their resistance by taking them on a field experience to another school, as well as visiting first grade colleagues within their own school. Their resistance was replaced with trust —a trust for the program and a trust in their colleagues. They now hold each other accountable. The fact that the most resistant group of teachers voluntarily tied reading instruction utilizing *Fundations*® to their evaluation is a high stake move on their part. They are committed to the coherence of teaching reading. That is, they learn from each other and, in this case, about a program, but that is not the end of their learning. They build on this knowledge and make learning better. Core has done this. She adds her own music and builds additional kinesthetic movement into her teaching. She did not remain stagnant. Although initially a strong resistor, her professional capital has grown and continues to blossom as she innovates next practices that are also shared with her colleagues.

This case study shows us that children can learn and retain the most foundational skills required for independent reading. In 2019 there was still a debate about reading instruction. Science and technology have shown us through brain imaging that phonics-based instruction is the key to building readers in our nation. This case study is an example of a specific reading program, *Wilson Fundations*®, that has made a difference for the teachers and students at one

urban elementary school. The transformation of the PK-2 group of teachers has been from one of disconnected, independent decisions about reading instruction to agreed-upon instruction leading to equitable learning utilizing a research-based reading program, thus building coherence in the practice of teaching reading to primary children.

Minutes of School Visit Artifact

December 4, 2018
Team Members:
[redacted]

<u>Background</u>:
As a part of our Professional and Student Learning Goals for 2018-2019, the [redacted] team wanted to plan a Learning Walk to watch a Fundations lesson, and reflect on what we observed. As an action step, on December 4, 2018, the [redacted] team visited the [redacted] School, to observe Fundations lessons. Our [redacted] teachers [redacted]) were able to watch a Fundations lesson in a mixed [redacted] room, and K teachers ([redacted]) watched a straight K classroom. Below, we synthesized and reflected on what we were able to see. We followed a noticing/wondering protocol, and then had an open discussion around our practice.

<u>Noticings</u>:
[redacted] *Class:*
[redacted]*:*

- *Routines built in.*
- *Familiarity with materials and sequence of lesson.*
- *4 modes were utilized, reading, speaking, listening, writing.*
- *Teacher built in think time, did not jump in right away. Children should seek out peers.*

[redacted]*:*

- *Lesson lasted for over 30 minutes*
- *Students were engaged for most/all of the time.*
- *Rich discussion between a word and a syllable.*
    - *Example: Student said the word aquarium is 4 words.*
    - *Teacher had to explain this.*
- *Interactive writing.*
    - *Was the aquarium fun yesterday.*

[redacted]*:*

- *9 JK sitting on the rug were engaged in the lesson.*
- *Speaking, reading, listening, writing, the JK students partcipated at least 2/4 of these areas.*
- *Encourages students to help each other out. Questions are formed to assist but not give answers.*

[redacted]*:*

- *Students encouraged to problem solve.*
- *Use of materials was successful. Seemed to be a routine of the lesson.*

- *Variety of lessons that touch on different aspects of Phonological Awareness.*
- *Students were able to sit on the rug for 30 mins.*
- *Students were able to use materials appropriately.*
- *All students were able to transition to get materials and back to the rug.*

K Class:

[redacted]*:*

- *Lesson was 20 minutes.*
- *Variety of Fundations materials around the classroom.*
- *Multisensory techniques: Tapping out words, modeling sounds*
- *Students going to tables with materials*
- *Routines established*
- *Teacher led engagement*

[redacted]*:*

- *Teacher used all of the language from handwriting "fly back, slide down"*
- *Routines were strong*
- *Teacher did not praise students*
- *No visuals for children to follow, all auditory*
- *Teacher read from the book and the cards.*
- *2 student directed activities: Vowels and alphabet cards*

[redacted]*:*

- *Lesson was 20 minutes.*
- *Students had jobs to point out letters.*
- *Teacher read from cue cards.*

Wonderings:

- *How often are lessons over 30 minutes?*
- *I wonder what the time frame was in the beginning of the year, to now? Did it grow, or is always the same time?*
- *I wonder how long she spent just working on the routines? Behavior management?*
- *I wonder how the assistant teacher was utilized?*
- *I wonder if the lessons were varied because of the mix grades vs. straight K class?*
- *I wonder if there is a mix of JK/K materials?*
- *I wonder is Fundations is done at other times of the day?*
- *I wonder what learning targets are for the day?*
    - *I wonder if that is an expectation for the school?*
- *I wonder how there is differentiation for ELL?*
- *I wonder how it would look if RC language was more embedded in the lesson?*
- *I wonder if it's always done whole group/small group?*

- *I wonder what the other parts of the literacy day look like?*

***Lesson Debrief**:*
JK/K:
All students on the rug holding up the lesson cards. Picking students with specific letters. Small cards on the pocket chart. 1 student came up with the pointer to identify vowels. He wasn't sure, another student prompted him to use the "pink ones." Discussion around phoneme substitution. Sentence: Was the aquarium fun yesterday? How many words were in the sentence? This derailed the lesson a bit because the teacher had to talk about the difference between words and syllables. This was a teaching moment. This was all oral language. All students went to get their bags. Teacher pulled up the Fundations paper on the whiteboard, and had students write the letters on the board. Entire lesson was on the rug. Teacher asked questions like "where [quote ends where?] is your tongue, does that make sense, or how would you spell the rhyming word? Was this review or new?

K Room:
Shared reading posted. Held up the large letter cards. "I need my vowels" and a student knew to come up. We were going to learn something new, "tapping." Brought down "mat" m/a/t. When we tap, you have to use your hands. There was explicit instruction around the tapping. After mat, mad, sad, sat, sap, sip, lip. Practice tapping out each of these words 2-3 times. Students got their bags, she called them colors. Kids knew where to sit. Then, students did writing of letters. They did all plain letter line letters.

***Ideas/Reflection**:*
Would we want to go back in March to see another lesson? Just to see the progression is? ***YES! Can we create the structure so we can then reflect with the K teachers after?***

The K room saw a direct lesson, and the Jk/K saw an "art." The classroom teacher was able to stop and use the teachable moments. The JK/K classroom had a real conversation around building knowledge together.

Both groups did not hear praise, but did notice joy. Opportunity to check for understanding, this will help the teachers grow. Does there need to be praise? The focus of the lessons is to drill.

Validated what we are doing now, and took away new ideas.

Can we create a scope and sequence/ lesson cycle? For example, every Tuesday, students will do these X activities.

FAST Data Analysis Artifact

Beginning in 2016, the district required all schools to screen kindergarten students for foundational reading skills. The following charts show student results, specifically in letter sound recognition (LS): Nonsense World Fluency: Correct Letter Sound (NWF-CLS) to measure correct correspondence of each letter in the word, and Nonsense Word Fluency: Whole Word Read (NWF-WWR) to measure automaticity. The results of the screeners provide insight into potential reading difficulties or dyslexia and the school provides tiered intervention as needed.

Preliminary FAST results indicate that students are building their foundational skills. The NWF-WWR shows that fewer students are performing in the below average range when compared to 2017. In addition, a greater number of students are in the average and above average ranges. The school will need to continue to analyze data results to ensure that students continue to progress. Interestingly, the 2018 cohort had fewer students in the well above average range. Although there are more students in the low average range, further analysis could indicate that these students had moved out of the below average range because there was a significant drop from 2017 to 2018. There was also a small number of students who performed in the average range, and in 2018 there was a significant increase as the percentage jumped to a third.

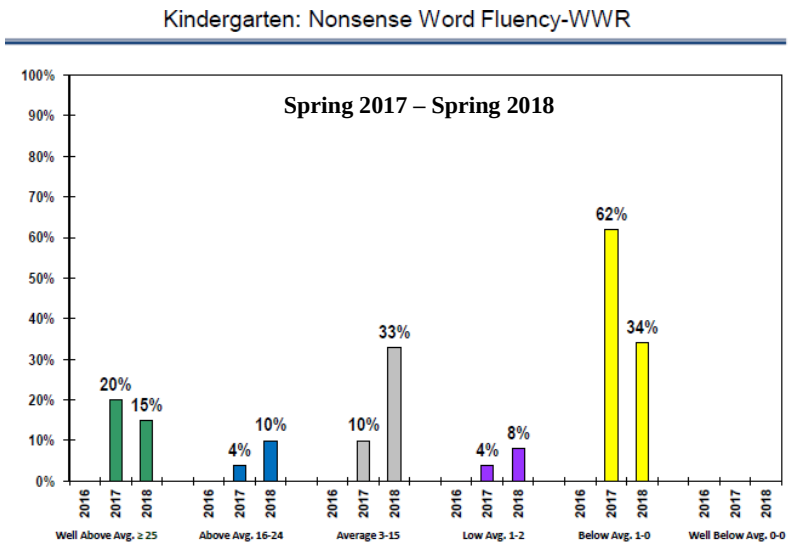


Figure 2. Kindergarten: Nonsense Word Fluency-WWR

In the NWF-CLR assessment, results show that fewer students are in the lowest level, red section, as the amount dropped from half of the kindergarteners to less than a third of kindergartens unable to clearly read each letter sound in nonsense words. In addition, we see an increase in the low average, average and above average categories. The school would need to dig into student names to verify that students are moving up in category, as this is clearly a difficult assessment for their kindergarteners.

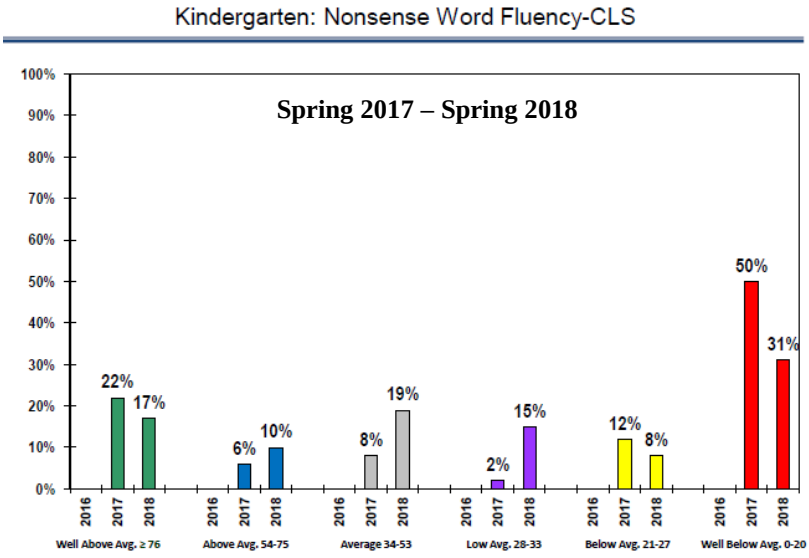


Figure 3. Kindergarten: Nonsense Word Fluency-CLS

There were several assessments for which data was available for the fall of 2019. In 2019 there was a significant spike in the number of students in the above average range for letter identification. However, there were some decreases that need further analysis, such as the decline in percentage of students in the well above average range. Decreases in the well below average, below average and low average ranges (resulting in students moving up in categories) is the goal so that more students are in the top three tiers.

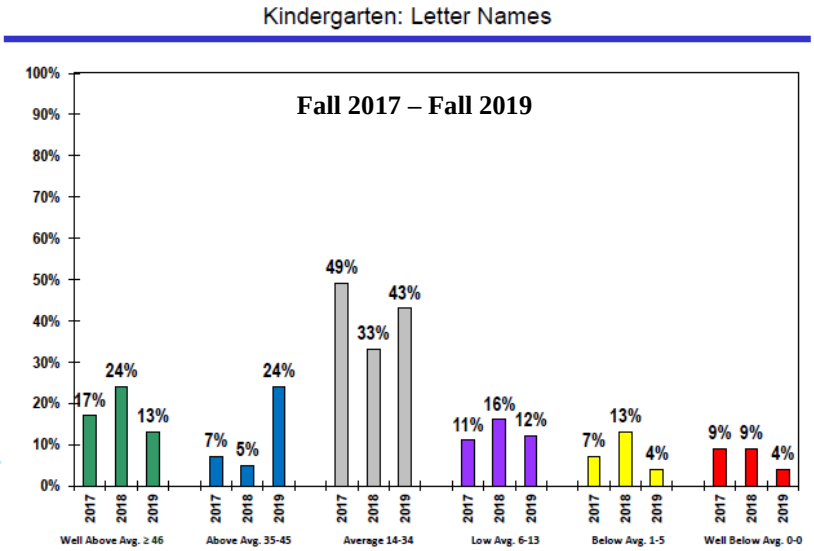


Figure 4. Kindergarten: Letter Names

In the letter sound and onset letter sound assessment we see similar results for the same cohort of students. The percentage in the above average range did spike by 2019 as shown in both charts below. This also explains the decrease in numbers in the average range, as students were outperforming that category. By 2019 the percentages in the below average and well below average categories did decrease. If the reading program was having a profound impact on student reading, one would expect that these screeners would continue to show improvement as teachers became better skilled and knowledgeable in utilizing the *Wilson Fundations*® reading program.

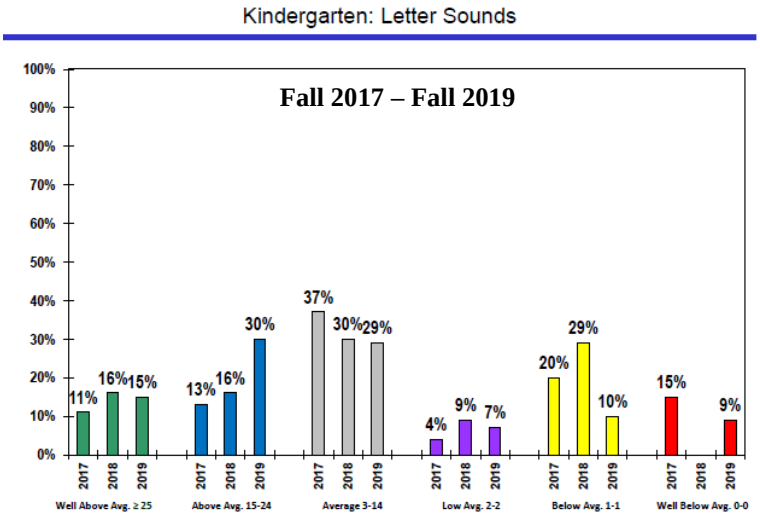


Figure 5. Kindergarten: Letter Sounds

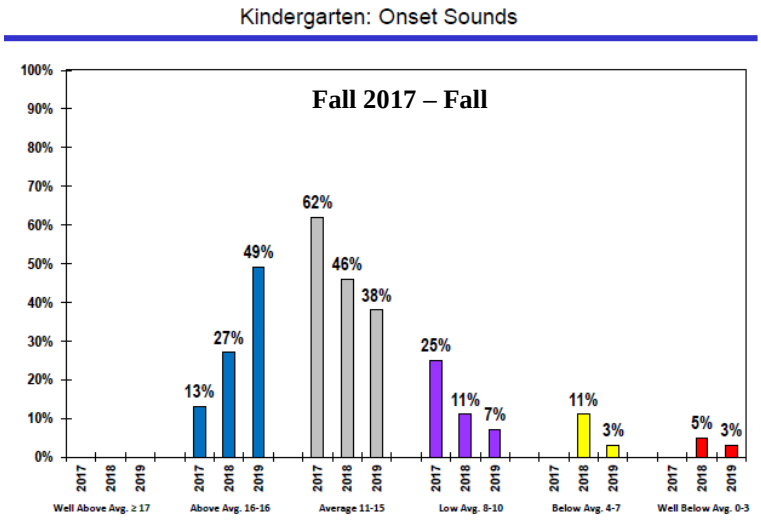


Figure 6. Kindergarten: Onset Sounds

Chapter V: Summary and Recommendations

Introduction

The purpose of this case study was to learn about the experiences of teachers at an urban elementary school who adopted a whole class phonics-based reading program. Specifically, this study sought to understand the perspectives of these primary school teachers who implemented *Wilson Fundations*®. In summary, I will reiterate teacher experiences and how this program has influenced their ability to teach children to read, and in so doing, begin to address the lack of research in whole group foundational reading instruction.

In addition, this chapter places the findings of the case study in the context of current research, also discussed in Chapter II. Interestingly, during the time of this case study phonics-based reading research continued to be shared in greater forums. Based on the analysis, highlights, an unexpected finding, and implications for policy and practices will be discussed. The chapter concludes with recommendations for future research.

This study was conducted to gain an understanding of teachers' perspectives on this reading program. The study was focused on the following research questions:

a. How do teachers describe first learning about *Wilson Fundations*®?
b. How do teachers describe training for implementation of the reading program?
c. How do teachers describe their experience and its impact on teaching using the program?
d. How do teachers describe any challenges they encountered?
e. How does the principal describe the factors that led to the adoption and implementation of *Wilson Fundations*®?

As described in Chapter III, the methodology used was a qualitative single case study, as the researcher sought to understand the experiences of the teachers as well as the principal's

perspective. This research followed the Yin Case Study process: plan, design, prepare, collect, analyze and share (Yin, 2009). A narrative inquiry model was used for the teacher and administrator interviews. The data for this research was gathered in an urban elementary school. State department public records indicated that the school housed 329 students during the 2017-18 school year; full time teachers, 34.9 (97.1% licensed) and the teacher/student ratio was 9.4 to 1. The demographic information was outlined in Chapter III. Student demographics included 7.9% English Learners, 26.4% identified with a disability, approximately half with high needs, and approximately 30% poor. The school served a diverse population of students; approximately 45% were white and 55% non-white race/ethnicities.

Of the subjects invited to participate, all of the PK-2 teachers, interventionist, literacy tutor and principal accepted the invitation to participate in this study. The findings were consistent with the information articulated within the program. The program did provide phonics-based instruction, and students did respond positively and retained their reading ability from year to year. Teachers learned new methods of instruction, a multisensory phonics-based approach, and were able to build on the learning of the program when utilized in previous grades. These findings were detailed in Chapter IV.

Overview of Findings

The participants in this study unanimously supported the *Wilson Fundations*® program as an effective phonics-based reading program. A compelling reason for its success can be attributed to the process of implementation. According to the participants, a great deal of credit was given to the literacy coach. The underpinnings of building teacher relationships and trust were not an initial focus for this research. However, there is a great deal of evidence suggesting that change theory methods were utilized by the principal to initiate and sustain this change.

Upon analyzing the results, it became apparent that the researcher had stumbled across an amazing phenomenon. The principal's strategy to change teacher practice actually thrived in a school where there was resistance. This resistance became apparent when the most senior teacher and her PK/K colleagues indicated that they did not want to change their practice. Ilsa also articulated the teachers' resistance. Yet, this team of teachers who banded together to resist also banded together when they decided to implement the reading program.

The overall takeaways from this study included students thriving as they learned to read, the instrumental role of the literacy coach, the abundance of materials, the flexibility of the program to meet individual student needs, and a heightened level of collaboration that emerged as the school moved to a coherent PK-2 reading program.

Overview of Current Research and Methodology

Despite the brain imaging research linking phonics-based instruction to build the brain's circuitry in the left hemisphere which is needed to read, the debate over reading instruction continues to be heated. Drs. Bennett and Sally Shaywitz, neurologists and neuroscientists and directors at the Yale Center for Dyslexia and Creativity, were recently interviewed by Katie Hafner (September 21, 2018) from *The New York Times.* "There is an epidemic of reading failure — that we have the scientific evidence to treat effectively—and yet we are not acknowledging," stated Dr. Sally Shaywitz, a compelling statement from this expert. The research has shown that one in five people have reading difficulties. Yet, far too many schools fail to include phonics-based reading instruction in their primary classrooms.

The University of Connecticut Neag School of Education co-sponsored an event entitled *The Science of Dyslexia and Teaching Reading to Students with Disabilities in Connecticut* on October 4, 2019. At the summit, the keynote speaker, journalist Emily Hanford, reviewed the

current research on phonics-based instruction. She specifically articulated how scientific research has shown how children learn to read and how they should be taught. Hanford stated that, based on this research, millions of children are being left behind because they are not receiving appropriate reading instruction.

Days before the defense of this study, Dr. Carolyn Strom, Professor of Early Childhood Literacy and Innovation at New York University, was interviewed during a podcast by Susan Lambert, *Amplify Education* Vice President of Elementary Literacy Instruction. During the interview, Dr. Strom reported that in her research she found that both teachers and parents believe that children learn to read words as a whole pattern by sight. She went on to dispel the myth that reading is a natural capacity that is developed spontaneously. This belief is reflected in our nations' schools as accepted practice. Teachers are not aware of the science behind reading. She credited French neuroscientist Dr. Stanislas Dehane, author and researcher, as having provided an eye-opening description of how our brains learn to read in his book *Reading in the Brain*. Dr. Strom encouraged listeners to be mindful of the predictive statistics, indicating that there are millions of children who have reading difficulties. There are no neurons in our brains for words. Biologically, there is no brain reading center in existence. It needs to be created. This development is mapped as a multi-path cerebral highway, connecting bridges from translating symbols and sounds to taking in information to speech processing to making meaning. A dynamic circuitry is created that allows the brain to develop automaticity in reading. Brain plasticity is powerful (Amplify Education, February 5, 2020).

A report was also published by journalist Emily Hanford. This publication named a widely used reading curriculum that relies on a cueing system as having failed students in our nation. In the publication, Dr. Marilyn Adams, researcher and visiting scholar at Brown

University, further affirmed the basis for phonics-based instruction. This is the first publication that calls out a widely used program as having been disproved by cognitive scientists in support of phonics instruction (American Public Media, January 27, 2020).

Moreover, the most recent edition of *Educational Leadership* focuses exclusively on reading. Article after article highlights the needed change in reading instruction; in particular, Benjamin Riley's. In an eloquent manner he reminds us that pointing fingers does not lead to progress. He credits "hard-hitting reporting" by Emily Hanford as the force that has brought the reading fight into the spotlight. While he recognizes the research and affirms that reading is not natural, he does provide an argument to move forward. "Polarization around reading science threatens to undermine reasoned deliberation and uptake … bringing reading science into teaching is a must … in Tolstoy-esque fashion, to go from war to peace (Riley, 2020, pp. 16-22).

In his book *Focus*, Dr. Mike Schmoker repeatedly indicates that there is a lack of reading instruction in the nation's schools (p. 17). Dr. Schmoker references dozens of research authorities in his book who have identified reading as a major area of concern, and a main reason for high college dropout rates (p. 35).

As indicated in Chapter II, there is widespread research supporting phonics-based explicit instruction as the key to teaching children to read. In the nation's National Reading Panel (2000), a meta-analysis of reading instruction research, the authors found that specific phonics instruction taught early in primary school resulted in stronger reading. They found that the mean effect sizes for kindergarten and first grade were 0.56 and 0.54, respectively. However, the mean effect size for older children (Grades 2-6) was 0.27. "These results indicate clearly that systematic phonics instruction in kindergarten and 1st grade is highly beneficial and that children at these developmental levels are quite capable of learning phonemic and phonics concepts …

and must begin with foundational knowledge involving letters and phonemic awareness" (National Reading Panel, 2000, p. 109). Moreover, their analysis found that there was substantial reading growth among children at risk for developing reading problems and significantly improved independent reading ability for disabled students (National Reading Panel, 2000, p. 110). The 2017 NAEP results show a staggering percentage of 4th graders who are reading below proficiency, approximately 64%. While there is evidence that the Orton-Gillingham multisensory approach positively influences a child's ability to learn to read after they are identified with a label, there is no consistency in the instructional practices utilized in the regular classroom because there are hundreds of programs claiming to be the answer to teaching reading. Nearly 100% of the literature focuses on the instructional approach for students *after* they are identified as having a reading disability. An Orton-Gillingham phonics-based program, *Wilson Fundations*®, was written for whole class instruction.

Discussion of Findings

This case study revealed common threads among teacher experiences. The responses to the research questions are highlighted in this section. Regarding initial exposure, responses varied; most had been introduced to the program by colleagues, at different times. Some teachers learned of the program at the university level and others learned of the program at the elementary school. Prior to the hiring of the literacy coach, Ilsa, there was no common method for teaching reading at the school.

Regarding the second research question, implementation training, teachers did not have common experiences. Some teachers relied on the literacy coach, others dug into the program themselves, and others were assigned to visit another school. The literacy coach and the interventionist were the only ones who did receive direct training from the Wilson organization.

There was a consistent reaction to the third question. With regard to the impact of the program on student reading ability, teachers' opinions about the program were consistently favorable. One hundred percent of the participants witnessed student reading capacity increases, and indicated that the learning was sustained from year to year. With regard to the challenges question, the most similar response was that of most PK/K and first grade teachers, indicating that there was a great deal to teach and they couldn't fit it all in.

The principal credited the onboarding of the literacy coach as the lever that led to the progress and implementation of *Wilson Fundations*®. Thus, the literacy coach was a significant contributor to the progress that he sees when visiting classrooms. He did not hesitate to emphatically credit student reading progress to Ilsa and the implementation of the reading program.

Drs. John Hargreaves and Michael Fullan, professors at Boston College and the University of Toronto, respectively, heavily reference the research conducted by Dr. Hattie in their book *Professional Capital*. It would be difficult to find any educator who would disagree with Dr. Hattie's first signpost: *Teachers are among the most powerful sources of influence on learning* (p. 52). Teachers are at the ground level directly instructing the nation's children. Based on their work, Drs. Hargreaves and Fullan underscored the need for building professional capital, including *communities of teachers using best and next practices together* (p. 51).

Dr. Fullan, an internationally acclaimed education researcher and authority on reform, discusses relationships as a key agent to creating a moral purpose in his book *Leading in a Culture of Change*. Chapter IV described how Ilsa, the literacy coach, created a culture of trust among her colleagues. She demonstrated commitment to their success. The principal had a vision and strategy for changing literacy in his school. He set out on a path to use the literacy

coach as the lever for that change. The principal strategically hired the right person for the job. He recognized that there was a significant need, as the district benchmark results showed that the kindergarten students did not have appropriate reading-readiness skills. He sought a literacy coach who had knowledge in the research and who identified a solution. Her experience in data analysis was also an onboarding criteria. The findings support the principal's strategy; he did hire the right person for the job. He provided her with the charge to change reading instruction in Grades PK-2. This partnership was strategic and critical in creating the needed change. Based on his research, Dr. Fullan clearly indicates that the leader's ability to build internal capacity as described in *The Six Secrets of Change –What the Best Leaders Do to Help Their Organizations Survive and Thrive* begins with onboarding - hiring the right people with the right potential (p. 71).

Figure 7. A Framework for Leadership (Fullan, 2001)

In addition, Dr. Fullan's leadership framework (Figure 7) reinforces the work being done at the school, specific to the primary grades' literacy instruction (*Leading in a Culture of Change*, 2001, p. 4). The literacy coach and principal created an internal environment in PK-2 that included commitment from the teachers. They identified a moral purpose—to impact children's reading skills, thus building teacher capacity to understand the reasons for the change. Teachers were visibly excited to speak about *Wilson Fundations*®. Their commitment was evident and, as this model indicates, the enthusiasm did move to internal commitment with positive results for all, students and teachers.

Dr. Paul Bambrick-Santoyo identifies accountability as a tool for ensuring needed implementation. In this case study, fidelity to *Wilson Fundations*® was the needed change (*Leverage Leadership*, 2012, pp. 51-53). The power that the PK/K team demonstrated by self-selecting to be accountable in a high stakes manner will ensure that the needed change in their teaching practice is occurring. They are utilizing phonics-based instruction and the results show that it is impacting children.

Dr. Fullan reminds us of Henry Mintzberg's work (2004), which argues that building capacity must be *steeped in learning through reflective action* (*The Six Secrets of Change*, 2008, p. 89). This reflective practice is apparent in the culture that the principal and literacy coach have created. Teachers reported having positive interactions and collaboration exhibited with colleagues during PLCs.

In addition, Dr. Bambrick-Santoyo (2012), *Leverage Leadership* author and director of the North Star Academies in Newark, New Jersey, identifies seven levers to *drive consistent, transformational, and replicable growth*, two of which are important to highlight: instructional planning and staff culture. The principal at this urban elementary school worked with his

literacy coach to assist teachers in providing well-structured lessons while providing the support to build up the teachers, thus potentially impacting student learning and school culture (Bambrick-Santoyo, 2012, p. 10).

Furthermore, University of Virginia professor Dr. Pamela Tucker, along with College of William and Mary professor Dr. James Stronge provide insight into teacher planning in their book *Linking Teacher Evaluation and Student Learning* (2005). The authors share that when organizing and orienting for instruction, effective teachers prioritize instruction by maximizing the allocated times throughout the school day (p. 106). This observation described the actions taken by teachers in this case study. Initially they were not able to see how the progression of teaching reading would work for students until they had experienced the cycle of the necessary explicit instruction from beginning to end. Once teachers had experienced the program in its entirety during a school year, they were better able to see the big picture and prioritize the needed instruction. A group of PK/K teachers also took a risk and decided to have the new instructional program as a high stakes endeavor, making it a part of their evaluations.

This study found that the second-grade teachers were not as overwhelmed with the number of lessons described in the program. This could be attributed to the fact that they were building on the foundational skills that were already taught at the earliest levels. Teaching reading to the youngest children naturally may be more overwhelming because there is nothing to build upon. Therefore, it may make sense that PK/K and 1st grade teachers have the most to teach, and by the third year of learning—2nd grade—students are actually building on the foundational skills that were already learned. Hence, second grade teachers are more comfortable and have "less" difficulty as the students are older and already acquired the needed reading skills. This could be a research question for further study.

Interestingly, EJ actually wanted more interactive activities. He was the only PK teacher who indicated that there was a lack of materials. Is this because he may not be fully aware of all that the program offers? I raise this question because so many of his colleagues felt the opposite. June was concerned that her colleagues were not utilizing all that the program offered. This may be the case with EJ. She was concerned that the program wasn't being used to its full potential. For example, there are cue cards for teachers and she found that other teachers didn't know about this resource.

Another phenomenon that struck me was the cohesiveness of the PK/K team. "It's been great for kindergarten. I love the curriculum work as a team. All of PK/K wants more training," Ane shared. This sentiment was also echoed by the most senior member, Core, who indicated that they now support each other during PLC. "I now weave components of the program into all curricula."

The teachers were experiencing what Dr. Fullan referred to as the *Knowledge-Sharing Paradigm*. Effective leaders need to provide the structure for knowledge to be created and shared (*Leading in a Culture of Change*, p. 86). The principal and literacy coach created this needed structure.

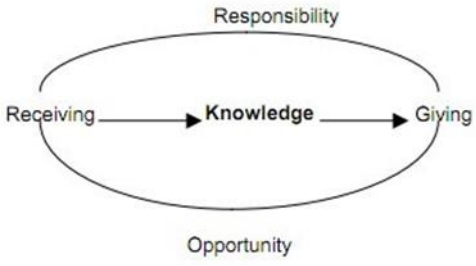


Figure 8. Knowledge Sharing Paradigm (Fullan, 2001)

Implications and Recommendations

As indicated in Chapter III, this case study was limited to the experiences at one urban elementary school in the Northeast United States. The researcher understands that perceptions can change, thus the research is also bound by its timing as well as by the specific participants in the research. Although the information from this small sample of educators is not generalizable to a broader population of educators, it remains that a small study is a building block for future studies, and thus it is useful in future research.

Thoughts about needed research include conducting case studies in other districts that use this program. Specifically, studies should include similar urban elementary schools as well as schools with different demographics. A study regarding implementation and the role of the principal and teacher leaders would also provide needed research. Are there other phonics-based programs that have been successful for whole class instruction? Are special education referrals decreasing where phonics instruction has been the primary instruction for the youngest ages? Are there differences in outcomes in small schools compared to large schools? Have parents noticed a difference in districts that implemented phonics instruction? How do students describe learning to read? Do implementation protocols matter? Are there differences in districts that use *Wilson Fundations*® compared to other phonics programs? How are phonics programs different or alike? Are some programs better than others? Is there teacher behavior that impacts the success of teaching phonics? How does the district or school leadership impact phonics instruction? The research questions are seemingly endless.

Implications for policy and practices are significant, as we know that children across the United States are not receiving the needing reading instruction. District policymakers who oversee curriculum development and program approvals need to be aware of the research so that professional learning in appropriate reading instruction will be a priority for all school districts.

Districts leaders certainly could visit other schools that utilize a phonics-based program to compare options. Teachers need to have first-hand knowledge of the research, as this will strengthen the moral purpose for change. School-based leaders need to be a part of this change because they are responsible for evaluating the classroom instruction.

Any skeptical educator can review the work currently underway at Yale's Haskins Global Language and Literacy Innovation Hub, where teachers are involved in a new study to see how their students' brains are changing as they begin to read better. Through the use of EEG caps on students' scalps, sensors capture the brain waves as they are recorded (Diegmueller, 2020)*Education Week*, January 22, 2020, p. 3). In addition, there are well-known, successful individuals who have shared their struggles with dyslexia and how phonics-based teaching impacted them. For example, half of the investors or "sharks" on *Shark Tank* are dyslexic: Daymond John, Barbara Corcoran, Kevin O'Leary, and guest "shark" Richard Branson (Feloni, February 7, 2018).

Based on the research to date, it is clear that phonics instruction impacts students' ability to read. This is a serious problem. In 2020, we cannot keep doing what we know is failing our children. Public education cannot continue to be the reason that over half of the nation's children are unable to read proficiently. Implementation of phonics instruction in every primary school along with continued research into this program and other programs will benefit every nation and its children.

References

Abdulkarim, W. F., Abdulrauf, M. S., & Elgendy, A. A. (2017). The effect of a multi-sensory program on reducing dyspraxia and dysgraphia among learning disabled students in Rafha. *Journal of Educational Sciences and Psychology, VII*(LXIX), 51-65.

Ackerman, D., & Perkins, D. N. (1989). Chapter 7. Integrating thinking and learning skills across the curriculum. In H. H. Jacobs, *Interdisciplinary curriculum: Design and implementation*. Alexandria, VA: Association for Supervision and Curriculum Development.

Afzaal, M. S. (2015). Social cognitive theory. Retrieved from http://www.slideshare.net /mohammadsohaibafzaal/social-cognitive-theory34958260

Akerman, R. (2008). Are literacy targets impossible to reach? *Literacy Today*, 11-12.

Allington, R. L. (2011). What at-risk readers need. *Educational Leadership, 68*(6), 40-45. Retrieved from http://www.ascd.org/publications/educational_leadership/mar11 /vol68/n

Allington, R., & Gabriel, R. (2012). The best way to prepare students for high stakes reading assessments. *New England Reading Association Journal, 47*(2), 1-3. Retrieved from http://0-search.ebscohost.com.library.acaweb.org/login .aspx?direct=true&db=eue&AN =74011853&site=ehost-live

American Public Media. January 27, 2020. Retrieved from https://www.apmreports.org/story/2020/01/27/lucy-calkins-reading-materials-review

Amplify Education. *The Science of Reading: The Podcast*. February 5, 2020. Retrieved from https://amplify.com/science-of-reading-the-podcast/

Ansalone, G., & Biafora, F. (2004). Elementary school teachers' perceptions and attitudes to the educational structure of tracking. *Education, 125*(2), 249-258. http://0-web.a.ebscohost.com.library.acaweb.org/ehost/pdfviewer/pdfviewer?vid=5&sid =a9678aea-d319-42ea-9be0-5f1172194dd9%40sessionmgr4001&hid=4204

ASCD. (2012). Dismantling the myth of learning to read and reading to learn. Retrieved from http://www.ascd.org/ascd-express/vol7/711-houck.aspx

August, D., Carlo, M., Dressler, C., & Snow, C. (2005). The critical role of vocabulary development for English language learners. *Learning Disabilities Research and Practice Learning, 20*(1), 50-57. doi:10.1111/j.1540-5826.2005.00120.x

Ball, L. (2017). What you need to know about your dyslexic students: From one teacher to another. The Yale Center for Dyslexia & Creativity, Yale School of Medicine. http://www.dyslexia.yale.edu/

Bambrick-Santoyo, Paul. (2012). *Leverage Leadership.* San Francisco: Jossey-Bass.

Basil, C., & Reyes, S. (2003). Acquisition of literacy skills by children with severe disability. *Child Language Teaching and Therapy, 19*, 27-48.

Beck, A. (2013, September 10). 43 great quotes on the power and importance of reading. Retrieved from http://bilingualmonkeys.com/43-great-quotes-on-thepower-and-importance-of-reading/

Benchmark Education. (2016). Read about best practices in social studies content integration. Retrieved from http://www.benchmarkeducation.com/best-practiceslibrary/social-studies-content-integration.html

Betts, E. A. (1946). *Foundations of reading instruction, with emphasis on differentiated guidance*. New York: American Book Company.

Bharuthram, S. (2012). Making a case for the teaching of reading across the curriculum in higher education. *South African Journal of Education, 32*, 205-214. Retrieved from http://repository.uwc.ac.za/xmlui/bitstream/handle/10566/759/Bharuthram TeachingReading2012.pdf?sequence=6

Biemiller, A., & Siegel, L. S. (1997). A longitudinal study of the effects of the "bridge" reading program for children at risk for reading failure. *Learning Disability Quarterly, 20*(2), 83. doi:10.2307/1511216

Boaler, J., Wiliam D., & Brown, M. (2000). Students' experiences of ability grouping: Disaffection, polarisation and the construction of failure. *British Educational Research Journal, 26*(5), 631-648. doi:10.1080/713651583

Borgatti, S. (*n.d.*). Introduction to grounded theory. Retrieved from http://www.analytictech .com/mb870/introtogt.htm

Boushey, G., & Moser, J. (2006). *The daily 5: Fostering literacy independence in the elementary grades*. Portland, ME: Stenhouse.

Brown, E. (2014). History of reading instruction. Retrieved from http://www.thephonicspage .org/On%20Phonics/historyofreading.html

Brown, P. C., Roediger, H. L., & McDaniel, M. A. (2014). *Make it stick: The science of successful learning*. Cambridge, MA: Harvard University Press.

Brown, T. W., Killingsworth, K., & Alavosius, M. (2014). Interteaching: An evidence based approach to instruction. *International Journal of Teaching and Learning in Higher Education, 26*(1), 132-139. Retrieved from http://0search.ebscohost.com.library .acaweb.org/login.aspx?direct=true&db=eue &AN=98791657&site=ehost-live

Brozak, J. (2016). The importance of a low student to teacher ratio. Retrieved from http://everydaylife.globalpost.com/importance-low-student-teacher-ratio8579.html

Buckingham, J., Wheldall, K., & Beaman-Wheldall, R. (2014). Evaluation of a two-phase implementation of a tier-2 (small group) reading intervention for young low progress readers. *Australasian Journal of Special Education, 38*(02), 169-185. doi:10.1017/jse.2014.13

California Department of Education. (2015). California philosophy & definition-Rtl2. Retrieved from http://www.cde.ca.gov/ci/cr/ri/rtiphilosphydefine.asp

California State University. (2015). Qualitative research. Retrieved from http://web.csulb.edu /~msaintg/ppa696/696quali.htm

Cappa, C., & Giulivi, S. Dyslang. (2012). Dyslexia across Europe. Lifelong Learning Programme, European Union Funded Project: Euroface Consulting.

Carlisle, J. (*n.d.*). Fostering vocabulary development in elementary classrooms. *Teaching character education through literature: Awakening the moral imagination in secondary classrooms*, 44-52. doi:10.4324/9780203299838_chapter_3

Cartwright, K. B. (2010). Word callers: Small-group and one-to-one interventions for children who read but don't comprehend. Portsmouth, NH: Heinemann.

Catsambis, S., Mulkey, L. M., Buttaro, A., Steelman, L. C., & Koch, P. R. (2012). Examining gender differences in ability group placement at the onset of schooling: The role of skills, behaviors, and teacher evaluations. *The Journal of Educational Research, 105*(1), 8-20. doi:10.1080/00220671.2010.514779

Center for Literacy & Disability Studies (CLDS), Department of Allied Health Science, University of North Carolina School of Medicine. Retrieved June 12, 2009 from http://www.med.unc.edu/ahs/clds/projects

Chall, J., & Jacobs, V. (2003, Spring). The classic study on poor children's fourth-grade slump. *American Educator, 27*(1). Retrieved from http://www.aft.org/newspubs /periodicals/ae/spring2003/hirschsbclassic.cfm

Chall, J., Jacobs, V., & Baldwin, L. (1990). *The reading crisis: Why poor children fall behind*. Cambridge, MA: Harvard University Press.

Chang, L. (2015). Proficient readers' reading behavior in Taiwan: The study of young Chinese readers. *Universal Journal of Educational Research*, 3(4), pp. 283-287. DOI: 10.13189/ujer.2015.030405

Charmaz, K. (2006). *Constructing grounded theory: A practical guide through qualitative analysis*. London: Sage Publications.

Charmaz, K., & Belgrave, L. (2012). Chapter 24: Qualitative interviewing and grounded theory analysis. In *The SAGE handbook of interview research: The complexity of the craft* (2nd ed.), (pp. 347-366). Thousand Oaks, CA: Sage.

Chorzempa, B. F., & Graham, S. (2006). Primary-grade teachers' use of within-class ability grouping in reading. *Journal of Educational Psychology, 98*(3), 529-541. doi:10.1037/0022-0663.98.3.529

Cognitive science and the history of reading. Modern Language Association, 121(2), 483-502. Retrieved from http://www.jstor.org/stable/25486 327 EPS. (2016). S.P.I.R.E. 3rd Edition. Retrieved from http://eps.schoolspecialty.com/ products/literacy/reading-intervention/s-p-i-r-e-3rd-edition/about-the-program.

Craft, K., & Robles-Pina, R. (2008). Increasing reading fluency of elementary students: Information for the educational leader to use in making decisions. *International Journal of Educational Leadership Preparation, 1*(2), 1-7. Retrieved from http://files.eric.ed.gov /fulltext/EJ1067226.pdf

Cramer, S. Dyslexia international: Better training, better teaching. The International Dyslexia Association.

Crumly, C., Dietz, P., & D'Angelo, S. (2014). *Pedagogies for student-centered learning: Online and on-ground*. Minneapolis: Fortress Press.

Curwen, M., Miller, R., White-Smith, K., & Calfee, R. (2010). Increasing teachers' metacognition develops students' higher learning during content area literacy instruction: Findings from the read-write cycle project. *Issues in Teacher Education, 19*(2), 127-151. Retrieved from http://www.caddogap.com/ periodicals.shtml

Daniels, E., Pirayoff, R., & Bessant, S. (2013). Using peer observation and collaboration to improve teaching practices. *Universal Journal of Educational Research, 1*(3), 268-274. doi:10.13189/ujer.2013.010318

Darwish, S. A. (2014). Literacy and children's literature: Evidence from actual classroom practice. *Journal of Education and Training Studies, 3*(1). doi:10.11114/jets.v3i1.591 118

Decoding Dyslexia NJ. (2016). www.njleg.state.nj.us

Denton, C. A. Classroom reading instruction that supports struggling readers: Key components for effective teaching. Children's Learning Institute, University of Texas Health Science Center Houston. National Center for Learning Disabilities. Retrieved from http://www.rtinetwork.org/essential/tieredinstruction/tier1/effectiveteaching

DesRoches, D. (2014, March 24). Reading expert discusses dyslexia. StratfordStar.com. http://www.stratfordstar.com/18918/reading-expert-discusses-dyslexia/

Dickman, E. (2017, February). Do we need a new definition of dyslexia? International Dyslexia Association.

Diegmueller, Karen. (2020, January 22). Latching Onto Neuroscience, Teacher Venture Forth to Scan Students' Brains. *Education Week*, 29(19), p. 3.

Dodds, W. J. (1967). Highlights from the history of reading instruction. *The Reading Teacher, 21*(3), 274-280. Wiley on behalf of the International Literacy Association. https://www.jstor.org/stable/20195913

Duke, N. K., & Block, M. K. (2012). Improving reading in the primary grades. *The Future of Children, 22*(2), 55-72. doi:10.1353/foc.2012.0017

Educational Opportunity Association. (2015, October 29). What is a best practice? Retrieved from http://www.besteducationpractices.org/what-is-a-best-practice/

Elfenbein, A. (2006). Educational leadership. September 2017, p.10. ASCD.

Eide, B. L., & Eide, F. F. (2011). *The dyslexic advantage*. New York: Plume.

Ergul, C. (2012). Evaluation of reading performances of students with reading problems for the risk of learning disabilities. *Educational Sciences: Theory and Practice, 12*(3), 2051-2057. Retrieved from http://0-search.ebscohost.com.library.acaweb.org/login.aspx?direct =true&db =eue&AN=82203606&site=ehost-live

Erikson, K. (2005). Literacy and persons with developmental disabilities: Why and how? Paper commissioned for the EFA Global Monitoring Report 2006, Literacy for Life. Retrieved August 8, 2006 from http://unesdoc.unesco.org/images/0014/001459/145968e.pdf

Erickson, K. A., Clendon, S. A., Abraham, L., Roy, V., & Van de Karr, H. (2005). Toward positive literacy outcomes for students with significant developmental disabilities. *Assistive Technology Outcomes and Benefits, 2*(1), 45-55.

Feloni, Richard. (2018, February 7). 3 of the 6 'Shark Tank' investors are dyslexic — and they credit it for their success as entrepreneurs. *Business Insider*. Retrieved from https://www.businessinsider.com/dyslexic-shark-tank-investors-consider-it-strength-2018-2

Ferlazzo, L. (2015, March 25). Reading instruction: Best practices and realities in Canada's largest school district. *Journal of Visual Impairment and Blindness, 102*(4), 200-203. Retrieved from http://0-search.ebscohost.com.library.acaweb.org/login.aspx?direct=true &db=eue&AN=508054226 &site=ehost-live

Filippini, A., Gerber, M., & Leafstedt, J. (2012). A vocabulary-added reading intervention for English leaners at risk of reading difficulties. *International Journal of Special Education, 27*(3), 14-26. Retrieved from http://files.eric.ed.gov/fulltext/EJ1001055.pdf

Finch, M. E. (2012). Special considerations with response to intervention and instruction for students with diverse backgrounds. *Psychology in the Schools, 49*(3), 285-296. doi:10.1002/pits.21597

Foley, B. E. (1994). The development of literacy in individuals with severe congenital speech and motor impairments. In K. G. Butler (Ed.), *Severe communication disorders: Intervention strategies*. Gaithersburg, MD: Aspen.

Foss, B. (2013). *The dyslexia empowerment plan*. New York: Ballantine Books

Francis, D. J., Shaywitz, S. E., Stuebing, K. K., Shaywitz, B. A., & Fletcher, J. M. (1966). Developmental lag versus deficit models of reading disability: A longitudinal, individual growth curves analysis. *Journal of Educational Psychology, 88*(1), 3-17.

Freire, P., & Slover, L. (1983). The importance of the act of reading. *The Journal of Education, 165*(1), 5-11. Retrieved from http://www.jstor.org/stable/42772842

Fullan, Michael. (2001). *Leading in a Culture of Change.* San Francisco, CA: Jossey-Bass.

Fullan, Michael. (2008). *The Six Secrets of Change –What the Best Leaders Do to Help Their Organizations Survive and Thrive*. San Francisco, CA: Jossey-Bass.

Gallaudet. (2016). Reading cloze procedure. Retrieved from https://www.gallaudet.edu /Documents/Academic/ CLAST/EnglishWorks/Reading %20Cloze%20Procedure.pdf

Gallant, P. & Schwartz, R. (2009). Examining the nature of expertise in reading instruction. *Literacy Research and Instruction, 49*(1), 1-19. doi:10.1080/19388070802545983

Garcia, L., & Thornton, O. (2014, November 18). The enduring importance of parental involvement. Retrieved from http://neatoday.org/2014/11/18/the-enduringimportance-of-parental-involvement-2/

Gerring, J. (1999). What makes a concept good? An integrated framework for understanding concept formation in the social sciences. *Polity, 31*(3), 357-93.

Ghorbani, M. R., Gangeraj, A. A., & Alavi, S. Z. (2013). Reciprocal teaching of comprehension strategies improves EFL learners' writing ability. *Current Issues in Education, 16*(1), 1-12. Retrieved from http://0-search.ebscohost.com.library. acaweb.org/login.aspx?direct =true&db=eue&AN=88843618&site=ehost-live

Giess, S. (2005). Effectiveness of a multisensory, Orton-Gillingham influenced approach to reading intervention for high school students with reading disabilities (Doctoral dissertation). University of Florida.

Gonzalez, G. F., Žarić, G., Tijims, J., Bonte, M., and van der Molen, M.W. (2017, January 18). Contributions of letter-speech sound learning and visual print tuning to reading improvement: Evidence from brain potential and dyslexia training studies. *Brain Sciences, 7*(10). doi:10.3390/brainsci7010010

Goodman, Y. M. (1989). Roots of the whole-language movement. *The Elementary School Journal, 90*(2), 113. doi:10.1086/461607

Goodwin, B. (2011, April). Research says … don't wait until 4th grade to address the slump. *Educational Leadership, 68*(7), 88-89.

Graham, S., & Hebert, M. (2010). Writing to read: Evidence for how writing can improve reading. Retrieved from https://www.carnegie.org/media/filer_public/9d/e2 /9de20604-a055-42da-bc00-77da949b29d7/ccny_report_2010_writing.pdf

Graham, S., & Hebert, M. (2011). Writing to read: A meta-analysis of the impact of writing and writing instruction on reading. *Harvard Educational Review, 81*(4), 710-744. doi:10.17763/haer.81.4.t2k0m13756113566

Graves, M. F., Juel, C., & Graves, B. B. (1998). *Teaching reading in the 21st century*. Boston: Allyn and Bacon.

Graves, M. F., Juel, C., Graves, B. B., & Dewitz, P. (2011). *Teaching reading in the 21st century: Motivating all learners* (5th ed.). Boston, MA: Pearson.

Great Schools Partnership. (2013, August 19). English-language learner definition. Retrieved from http://edglossary.org/english-language-learner/

Great Schools Staff. (2012). How important is class size? Retrieved from http://www .greatschools.org/gk/articles/class-size/

Grounded Theory Institute. (2014). What is the grounded theory? Retrieved from http://www .groundedtheory.com/what-is-gt.aspx

Gulek, C. (2003). Preparing for high stakes testing. *Theory Into Practice, 42*(1), 42-50. doi:10.1353/tip.2003.0006

Halsey, V. (2011). *Brilliance by design: Creating learning experiences that connect, inspire, and engage*. San Francisco: Berrett-Koehler.

Hargreaves, A., & Fullan, M. (2012). *Professional Capital: Transforming teaching in every school*. New York: Teachers College Press.

Harris, T. L., & Hodges, R. E. (1995). *The literacy dictionary: The vocabulary of reading and writing*. Newark, DE: International Reading Association.

Hatch, J. A. (2002). *Doing qualitative research in education settings*. Albany: State University of New York Press.

Henry, M. Framework for informed reading and language instruction: Matrix of multisensory structured language programs. The International Dyslexia Association.

High Noon Books. (2013). High Noon reading intervention. Retrieved from http://www .highnoonbooks.com/index-hnb.tpl

Hoeft, F., McCandliss, B., Black, J., Gantman, A., Zakerani, N., Hulme, C., Lyytinen, H., Whitfield-Gabrieli, S., Glover, G., Reiss, A., and Gabrieli, J. (2010). Neural systems predicting long-term outcome in dyslexia. Center for Interdisciplinary Brain Sciences Research, and Department of Psychiatry and Behavioral Sciences, Stanford University,

Vanderbilt, Boston College, University of York, University of Jyvaskyla, & MIT. Proceedings of the National Academy of Sciences, www.pnas.org/cgi/doi/10.1073/pnas.1008950108

Hoover-Dempsey, K., & Sandler, H. (1995). Parental involvement in children's education: Why does it make a difference? *Teacher's College Record, 97*(2), 310-331. Retrieved from http://www.vanderbilt.edu/peabody/familyschool/papers/childrens_education.pdf

Hornsby, D., Parry, J., & Sukarna, D. (1992). *Teach on: Teaching strategies for reading and writing workshops*. Portsmouth, NH: Heinemann.

Houck, B. D. (2012, March). Dismantling the myth of learning to read and reading to learn. *Educational Leadership, 69*(6), 80-81. ASCD.

Hultquist, A. M. (2008). *What is dyslexia?* Philadelphia: Jessica Kingsley Publishers.

Hurst, B., & Pearman, C. (2013). Teach reading? But I'm not a reading teacher. *Critical Questions in Education, 4*(3), 225-234. Retrieved from http://0-search.ebscohost .com.library.acaweb.org/login.aspx?direct=true&db=eue&AN=90486746&site=e host-live

Institute for Writing and Rhetoric. (2015). Integrating reading and writing. Retrieved from https://writing-speech.dartmouth.edu/teaching/first-year-writing-pedagogiesmethods-design/integrating-reading-and-writing

International Adult Literacy Survey (ISLA), Organization for Economic Co-operation and Development. (2000). Literacy in the information age: Final report of the International Adult Literacy Survey, 267-289. Retrieved August 21, 2001 from http://wwi1.OECD.org /publications/e-book/8100051e.paf

Jackson, R. R., & Lambert, C. M. (2010). *How to support struggling students*. Alexandria, VA: ASCD.

The James R. Squire Office for Policy Research. (2008). English language learners. National Council of Teachers of English. doi:10.1007/springerreference_69912

Joshi, R. M. (2002). Teaching reading in an inner city school through a multisensory teaching approach. The International Dyslexia Association. *Annals of Dyslexia, 52*.

K12 Academics. (2004-2018). Reading education in the United States. Retrieved from https://www.k12academics.com/reading-education-united-states

K12 Reader. (2008, June 04). The relationship between reading and writing. Retrieved from http://www.k12reader.com/the-relationship-between-reading-and-writing/

Kamula, R. (2014, May). Multisensory approach to reading skills of dyslexic students. *International Organization of Scientific Research Journal of Humanities and Social Science, 19*(5), 32-34.

Kardalevska, L. (2015). Individualized approach as a form of adjustment in reading instruction for dyslexic pupils. *Vizione, 24*.

Katims, D. S. (2001). Literacy assessment of students with mental retardation: An exploratory investigation. *Education and Training in Mental Retardation and Developmental Disabilities, 36*(4), 363-372.

Kavale, K. A., & Forness, S. R. (2000). What definitions of learning disabilities say and don't say: A critical analysis. *Journal of Learning Disabilities, 33*, 239-256.

Keefe, C. H. (1996). *Label-free learning: Supporting learners with disabilities*. York, ME: Stenhouse.

Kent, S., Wanzek, J., & Al Otaiba, S. (2017). Reading instruction for fourth-grade struggling readers and the relation to student outcomes. *Reading & Writing Quarterly, 33*(5).

Kilpatrick, D. A. (2015). *Essentials of assessing, preventing, and overcoming reading difficulties*. Hoboken: John Wiley & Sons, Inc.

Kulik, J. A. (1992). An analysis of the research of ability grouping: Historical and contemporary perspectives. http://www.gifted.uconn.edu/nrcgt/reports/rbdm9204 /rbdm9204.pdf

Langer, J. A. (1991). Literacy and schooling: A socio-cognitive perspective. In E. H. Hiebert (Ed.), *Literacy for a diverse society: Perspectives, practices, and policies.* New York: Teachers College.

Lea, K. (2013). Modeling: Essential for learning. Edutopia. Retrieved from http://www .edutopia.org/blog/modeling-essential-for-learning-karen-lea

Leeming, M. (2017). A short monograph on how the Orton-Gillingham method of instruction helps children with dyslexia to learn to read with greater fluency. *Language in India, 19302940, 15*(8).

LiteracyTA. (2016). Skill-based instruction. Retrieved from https://www.literacyta.com/ skill-based-instruction

Little, W., Fowler, H. M., Coulson, J., & Onions, C. T. (1955). *The Oxford universal dictionary on historical principle*. Oxford, England: Oxford University Press.

Lleras, C., & Rangel, C. (2009). Ability grouping practices in elementary school and African American/Hispanic achievement. *American Journal of Education AM J EDUC, 115*(2), 279-304. doi:10.1086/595667

Maguire, M. H. (1989). Understanding and implementing a whole-language program in Quebec. *The Elementary School Journal, 90*(2), 142. doi:10.1086/461609

Marketing Donut. (2015). What is qualitative research? Retrieved from http://www .marketingdonut.co.uk/marketing/market-research/what-is-qualitativeresearch

Martin, K. (2012). In search of "best practice": A professional journey. *Odyssey: New Directions in Deaf Education, 13*, 32-35. Retrieved from http://files.eric.ed.gov/fulltext /EJ976479.pdf

McIntyre, C. (1995). Multisensory structured language programs: Content and principles of instruction. International Multisensory Structured Language Education Council. https://www.ldonline.org/article/6332?hc_location=ufi&theme=print

Meador, D. (2015). Utilizing small group instruction can pay big dividends. Retrieved from http://teaching.about.com/od/s-zteachingvocabulary/g/Small-GroupInstruction.htm

Merriam, S. B. (2009). *Qualitative research: A guide to design and implementation*. San Francisco: Jossey-Bass.

Meyer, A., & Rose, D. (1999). Teaching every student in the digital age: Universal design for learning. CAST Document Reproduction Service No. ED 308231. Retrieved January 5, 2009 from http://www.cast.org/teachingeverystudent/ideas/tes/

Mihandoost, Z., & Elias, H. (2011, Autumn-Winter). The effectivenss of the Barton's intervention program on reading comprehension and reading attitude of students with dyslexia. *Iranian Journal of Psychiatry and Behavioral Sciences, 5*(2), 43-52.

Miller, L. (1990). The roles of language and learning in the development of literacy. *Topics in Language Disorders, 10*, 1-24.

Missett, T. C., Brunner, M. M., Callahan, C. M., Moon, T. R., & Azano, A. P. (2014). Exploring teacher beliefs and use of acceleration, ability grouping, and formative assessment. *Journal for the Education of the Gifted, 37*(3), 245-268. doi:10.1177/0162353214541326

Moats, L. C. (2010). *Speech to print: Language essentials for teachers*. Baltimore: Paul H. Brookes Publishing Co.

Moccia, J. P. (2005). The influence of multi-sensory, multi-component reading intervention strategies with middle school poor readers. Seton Hall University Dissertations and Theses (ETDs). 1616.

Montessori, M. (1967). *The discovery of the child*. New York: Ballantine.

Musen, L. (2010). *Early reading proficiency*. Providence, RI: Brown University.

National Assessment for Education Progress, NAEP. (2017). https://www.nationsreportcard .gov/reading_math_2017_highlights/

National Council of Teachers of English. (2016). NCTE beliefs about the teaching of writing. Retrieved from http://www.ncte.org/positions/statements/writingbeliefs

National Institute for Literacy. (2009). National reading achievement goals inform early literacy instruction. Retrieved from http://www.reuters.com/article/2009/01/08/idUS254502+08-Jan-2009+PRN20090108

National Joint Committee on Learning Disabilities. (2008, June). An executive summary: Adolescent literacy and older students with learning disabilities, 1-21. Retrieved June 10, 2009 from www.ldonline.org/njcld

National Literacy Act of 1991 (P.L. 102-73), U.S.C. § 1201 et seq. (1991). Retrieved June 9, 2009 from http://www.nifl.gov/public-law.html

National Reading Panel. (2000). Teaching children to read: An evidence-based assessment of the scientific research literature on reading and its implications for reading instruction. Retrieved from https://www.nichd.nih.gov/publications /pubs/nrp/documents /report.pdf

National Right to Read Foundation. (2014, December 11). The history of reading instruction. Retrieved from http://www.nrrf.org/history-reading-instruction/

No Child Left Behind Act of 2001 (P.L. 107-10), U.S.C. § 6301 et seq. (2001). Retrieved August 10, 2008 from http://www.ed.gov/policy/elsec/leg/esea02/107

Oakes, J. (1985). *Keeping track: How schools structure inequality*. New Haven: Yale University Press.

Oakland, T., Black, J. L., Stanford, G., Nussbaum, N. L., & Balise, R. R. (1998, March 1). An evaulation of the dyslexia training program: A multisensory method for promoting reading in students with reading disabilities. *Journal of Learning Disabilities, 31, 140 - 147.*

Obaid, M. S. (2013). The impact of using multi-sensory approach for teaching students with learning disabilities. *Journal of International Education Research*, Irbid National University, Jordan, First Quarter. http://www.cluteinstitute.com

Ohio Department of Education, Joint Council of the State Board of Education and the Ohio Board of Regents. (2009). English language arts, academic content standards. Retrieved June 09, 2009 from http://www.ode.state.oh.us/GD/Templates/Pages/ODE/ODEDetail .aspx? page=3&TopicRelationID=1699&ContentID=489&Content=50718

Opitz, M., & Guccione, L. (2015). 5 reasons not to use round robin reading with ELLs. Retrieved from http://www.colorincolorado.org/article/5-reasons-not-use-roundrobin-reading-ells

Otaiba, S. A., & Fuchs, D. (2006). Who are the young children for whom best practices in reading are ineffective? An experimental and longitudinal study. *Journal of Learning Disabilities, 39*(5), 414-431. doi:10.1177/00222194060390050401

Oxford Dictionaries. (2015). Definition of teach in English. Retrieved from http://www .oxforddictionaries.com/us/definition/american_english/teach

Pajares, F. (2002). Overview of social cognitive theory. Retrieved from http://www.uky.edu /~eushe2/Pajares/eff.html

Pearson, P. D. (1989). Reading the whole-language movement. *The Elementary School Journal, 90*(2), 230. doi:10.1086/461615

Polick, A., Cullen, K., & Buskist, W. (2010). How teaching makes a difference in students' lives. *Observer, 23*(7). Retrieved from http://www.psychologicalscience.org/index.php /publications/observer/2010/september-10/how-teaching-makes-adifference-in-students-lives.html

Preckel, F., Götz, T., & Frenzel, A. (2010). Ability grouping of gifted students: Effects on academic self-concept and boredom. *British Journal of Educational Psychology, 80*(3), 451-472. doi:10.1348/000709909X480716

Pullen, P., Tuckwiller, E., Ashworth, K., & Lovelace, S. (2011). Implementing intensive vocabulary instruction for students at risk for reading disability. *Learning Disabilities Research and Practice, 26*(3), 145-157. doi:10.1111/j.1540- 5826.2011.00334.x

Rasinski, T. (2014). Fluency matters. *International Electronic Journal of Elementary Education, 7*(1), 3-12. Retrieved from http://0-search.ebscohost.com.library.acaweb.org /login.aspx?direct=true&db=eue&AN=108891632&site=ehost-live

Rasinski, T. V., & Hoffman, J. V. (2003). Oral reading in the school literacy curriculum. *Reading Research Quarterly, 38*(4), 510-522. doi:10.1598/rrq.38.4.5

Ratcliff, D. (*n.d.*). 15 methods of data analysis in qualitative research. Retrieved from https://connect.ssri.duke.edu/sites/connect.ssri.duke.edu/files/upload/helpresource /Ratcliff.15%20methods%20of%20qualitative%20data%20analysis.pdf

The Reading Clinic. (*n.d.*). The International Dyslexia Association Ontario Branch. www.dyslexiahamilton.ca/dyslexia-what-science-says

Reading Horizons. (2015). Reading strategies: What is decoding? Retrieved from http://www.readinghorizons.com/reading-strategies/decoding/what-is

Richards-Tutor, C., Baker, D. L., Gersten, R., Baker, S. K., & Smith, J. M. (2015). The effectiveness of reading interventions for English learners: A research synthesis. *Exceptional Children, 82*(2), 144-169. doi:10.1177/0014402915585483

Ritchey, K., & Goeke, J. (2006). Orton-Gillingham and Orton-Gillingham-based reading instruction: A review of the literature. *The Journal of Special Education, 40*(3), 171-183.

Riley, B. (2020, February). Drawing on Reading Science Without Starting a War. *Educational Leadership*, 77(5), pp. 16-22.

Robb, L. (2011). The myth of learn to read/read to learn. *Scholastic Instructor*. Retrieved from http://www.scholastic.com/teachers/article/myth-learn-readread-learn

Robb, L. (2013). New angles on differentiating reading instruction: Five best practices that deserve a new chapter in the common core era. *New England Reading Association Journal, 49*(1), 13-21. Retrieved from http://0-search.ebscohost.com.library.acaweb.org /login.aspx? direct=true&db=eue&AN=9 0419835&site=ehost-live

Robert Wood Johnson Foundation. (2008). Semi-structured interviews. Retrieved from http://www.qualres.org/HomeSemi-3629.html

Roberts, P. (2005). A framework for analyzing definitions of literacy. *Educational Studies, 31*, 29-38.

Robinson, J. P. (2008). Evidence of a differential effect of ability grouping on the reading achievement growth of language-minority Hispanics. *Educational Evaluation and Policy Analysis, 30*(2), 141-180. doi:10.3102/0162373708317742

Roskos, K., & Neuman, S. B. (2014). Best practices in reading. *The Reading Teacher, 67*(7), 507-511. doi:10.1002/trtr.1248

Rozycki, E. G. (2000). Pluralism and criteria: Minimizing politicization in public service decision-making. Retrieved January 4, 2010 from http://www.newfoundations.com/EGR/ PluralCrit.html#VIIdefinitions

RTI Action Network. (2015). What is RTI? Retrieved from http://www.rtinetwork.org/learn /what/whatisrti

Ryan, M. (2004). Do emotional disorders cause dyslexia? *Dyslexia Connections Scotland*. http://www.dyslexiaconnectionsscotland.com/social-emotional-problems.html

Scheffler, I. (1968). *The language of education*. Springfield, IL: Thomas.

Schmoker, M. (2011). *Focus*. Alexandria, VA: Association of Supervision and Curriculum Development.

Schwanenflugel, P. J., Kuhn, M. R., Morris, R. D., Morrow, L. M., Meisinger, E. B., Woo, D. G., Quirk, M., and Sevcik, R. (2009). Insights into fluency instruction: Short- and *Long-Term Effects of Reading Programs, Literacy Research and Instruction, 48*(4), 318-336. doi:10.1080/1938807082422415

Selwyn, Cecile. (*n.d.).* Dyslexia and the Brain. *Commonwealth Learning Center*. Retrieved from http://commlearn.com/dyslexia-and-the-brain/

Shaywitz, S. (2003). *Overcoming dyslexia: A new and complete science-based program for reading problems at any level*. New York: Vintage Books.

Shenendehowa Central School District. (2009). *What is RTI? 1-14*. doi:10.4135/9781452219417.n1

Shepard, A. (2004). *Readers on stage: Resources for reader ' s theater (or readers theatre), with tips, play scripts, and worksheets*. Los Angeles, CA: Shepard Publications.

Silver Strong and Associates. (2005). Task rotation: Differentiating questions, activities, and assessments by learning style. *Teacher planning and implementation guide*. Retrieved from http://www2.research.uky.edu/pimser/p12mso/pub/2009-10%20Archives/Partnering %20to% 20Progress%20(P2P)%202009-10/Summer%202010/port-TaskRotation-WB

Silver Strong and Associates. (2013). Teaching resources and materials. Retrieved from http://www.thoughtfulclassroom.com/

Simos, P.G., Fletcher, J.M., Sarkari, S., Billingsley, R.L., Francis, D.J., Castillo, E.M., Pataraia, E., Denton, C., and Papanicolaou, A.C. (2005). Early development of neurophysiological processes involved in normal reading and reading disability: A magnetic source imaging study. *Neuropsychology*, 19(6), 787-798.

Slavin, R. E. (2015). Evidence and the ESSA. Retrieved from http://www.huffingtonpost.com /robert-e-slavin/evidence-and-theessa_b_8750480.html

Slavin, R. E., & Cheung, A. (2005). A synthesis of research on language of reading instruction for English language learners. *Review of Educational Research, 75*(2), 247-284. doi:10.3102/00346543075002247

Sloan, W. (2012). What is the purpose of education? *Education Update, 54*(7). Retrieved from http://www.ascd.org/publications/newsletters/educationupdate/jul12/vol54/num07/What-Is-the-Purpose-of-Education¢.aspx

Stahl, K. (2011). Applying new visions of reading development in today's classrooms. *The Reading Teacher, 65*(1), 52-56. doi:10.1598/RT.65.1.7

Stahl, S. (1998). Understanding shifts in reading and its instruction. *Peabody Journal of Education, 73*(3), 31-67. doi:10.1207/s15327930pje7303&4_3

Strauss, A. L., & Corbin, J. M. (1998). *Basics of qualitative research: Techniques and procedures for developing grounded theory*. Thousand Oaks: Sage Publications.

Success for All Foundation®. (2012). Cooperative learning. Retrieved from http://www.successforall.org/elementary/powerful-instruction/our-instructionaldesign/ cooperative-learning/

Swanson, E. (2008). Observing reading instruction for students with learning disabilities: A synthesis. *Learning Disabilities Quarterly, 31*(3), 114-133. Retrieved from http://0-www.jstor.org.library.acaweb.org/stable/25474643

Swanson, E. A., & Vaugh, S. (2010). An observation study of reading instruction provided to elementary students with learning disabilities in the resource room. *Psychology in the Schools, 47*(5), Wiley Periodicals, Inc.

Sylwester, R. (2017). Understanding the brain for better policy and practices. My Brain Connection. August 3, 2017. Retrieved from https://brainconnection.brainhq.com/2017/08/03/understanding-the-brain-for-better-policy-andpractices

Texas Education Agency. (2015). What is effective comprehension instruction? Retrieved from http://www.readingrockets.org/article/what-effectivecomprehension-instruction

The Regents of the University of Michigan. *Debunking the myths about dyslexia*. (2018). www.dyslexiahelp.umich.edu.

Thomas, D. (2017, April 17). Education committee public testimony. Patch Media.

Thomson, M. E. (2013). *Dyslexia included: A whole school approach*. U.K.: David Fulton Publishers.

Tilanus, E. T., Segers, E., & Verhoeven, L. (2016). Responsiveness to intervention in children with dyslexia. Behavioural Science Institute, *Dyslexia, 22*, 214-232. Radboud University, The Netherlands.

Title I, Part A Program. (2014, June 4). Retrieved from http://www2.ed.gov/programs /titleiparta/index.html

Tompkins, G. E. (2004). *50 literacy strategies: Step by step*. Upper Saddle River, NJ: Pearson/Merrill/Prentice Hall.

Toppo, G. (2011). *USA Today*. https://usatoday30.usatoday.com/news/education/2009-01-08-adult-literacy_N.htm

Tucker, Pamela and Stronge, James. (2005). *Linking Teacher Evaluation and Student Learning*. Alexandria, VA: Association of Supervision and Curriculum Development.

U.S. Department of Education. (2007). Reading First program description. Retrieved from http://www.ed.gov/ programs/readingfirst/index.html

U.S. Department of Education. National assessment of adult literacy 2003. National Center for Educational Statistics. Retrieved from http://nces.ed.gov/NAAl/fr _definition.asp

U.S. Department of Health and Human Services. (2000, April). National Reading Panel Report. https://www.nichd.nih.gov/sites/default/files/publications/pubs/nrp/Documents/report.pdf

U.S. Department of Health and Human Services. (2011, November 3). National Institutes of Health-funded study finds dyslexia not tied to IQ. http://www.nichd.nih.gov/

The U.S. Illiteracy Rate Hasn't Changed in Ten Years. (2013, September 6; updated 2017, November 27). https://www.huffingtonpost.com/2013/09/06/illiteracy-rate_n _3880355.html

Understanding Dyslexia Fact Sheet. (2006). Lucid-Research. www.lucid-research.com

United Nations Educational, Scientific, and Cultural Organizations (UNESCO). Education for all global monitoring report 2006: Literacy for life. Retrieved August 21, 2008 from http://portal.unesco.org/education/en/ev.php-

Venezky, R. L. (1986). Steps toward a modern history of American reading instruction. *Review of Research in Education, 13*, 129. doi:10.2307/1167221

Vogt, M., & Shearer, B. A. (2007). *Reading specialists and literacy coaches in the real world*. Boston: Pearson/Allyn & Bacon.

Vygotskiĭ, L. S., & Cole, M. (1978). *Mind in society: The development of higher psychological processes*. Cambridge: Harvard University Press.

Vygotsky, L. (1962). *Thought and language*. Cambridge, MA: MIT Press.

Watson, D. J. (1989). Defining and describing whole language. *The Elementary School Journal, 90*(2), 128. doi:10.1086/461608

Weih, T. (2014). Student-described engagement with text: Insights discovered from fourth graders. *International Electronic Journal of Elementary Education, 6*(3), 395-414. Retrieved from http://0-search.ebscohost.com.library.acaweb.org /login.aspx?direct=true &db=eue&AN=108891529&site=ehost-live

What does scientifically based research mean for schools? Retrieved from http://www.sedl.org /pubs/sedl-letter/v15n01/2.html

Whitacre, M., Diaz, Z., & Esquierdo, J. (2013). Pre-service teachers: An analysis of reading instruction in high needs districts dual language classrooms. *International Journal of Instruction, 6*(1), 5-20. Retrieved from http://0-search.ebscohost.com. library.acaweb.org/ login.aspx?direct=true&db=eue&AN=86697948&site=ehostlive

Wilson, T., Nabors, D., Berg, H., Simpson, C., & Timme, K. (2012). Small-group reading instruction: Lessons from the field. *Dimensions of Early Childhood, 40*(3), 30-39. Retrieved from http://0-web.a.ebscohost.com.library.acaweb.org/ehost/pd fviewer /pdfviewer?sid =1705d748-5242-40b3-b0a1-bcc9f6160f97%40sessionmgr4003&vid =6&hid=4209

Wolf, M. (2007). *Proust and the squid: The story and science of the reading brain*. New York: HarperCollins.

Wood, R., & Bandura, A. (1989). Social cognitive theory of organizational management. *The Academy of Management Review, 14*(3), 361-384. Retrieved from http://www.jstor.org/ stable/258173

Worthy, J. (2009). Only the names have been changed: Ability grouping revisited. *The Urban Review Urban Rev, 42*(4), 271-295. doi:10.1007/s11256-009-0134-1

Wren, S. (2003). The brain and reading. Southwest Educational Development Laboratory. www.balancedreading.com/brain.pdf

Wrightslaw. (2009). 4 great definitions about reading in NCLB. Retrieved from http://www.wrightslaw.com/nclb/4defs.reading.htm

Yin, R. K. (2009). *Case study research: Design and methods* (4th ed.). Los Angeles, SAGE

Ylinen, S., & Kujala, T. (2015, February 17). Neuroscience illuminating the influence of auditory or phonological intervention on language-related deficits. *Frontiers in Psychology, 6*, 137.

Yoakem, K. (2016). TNCore STTS resources. Retrieved from http://www.livebinders.com/play /play/1390289

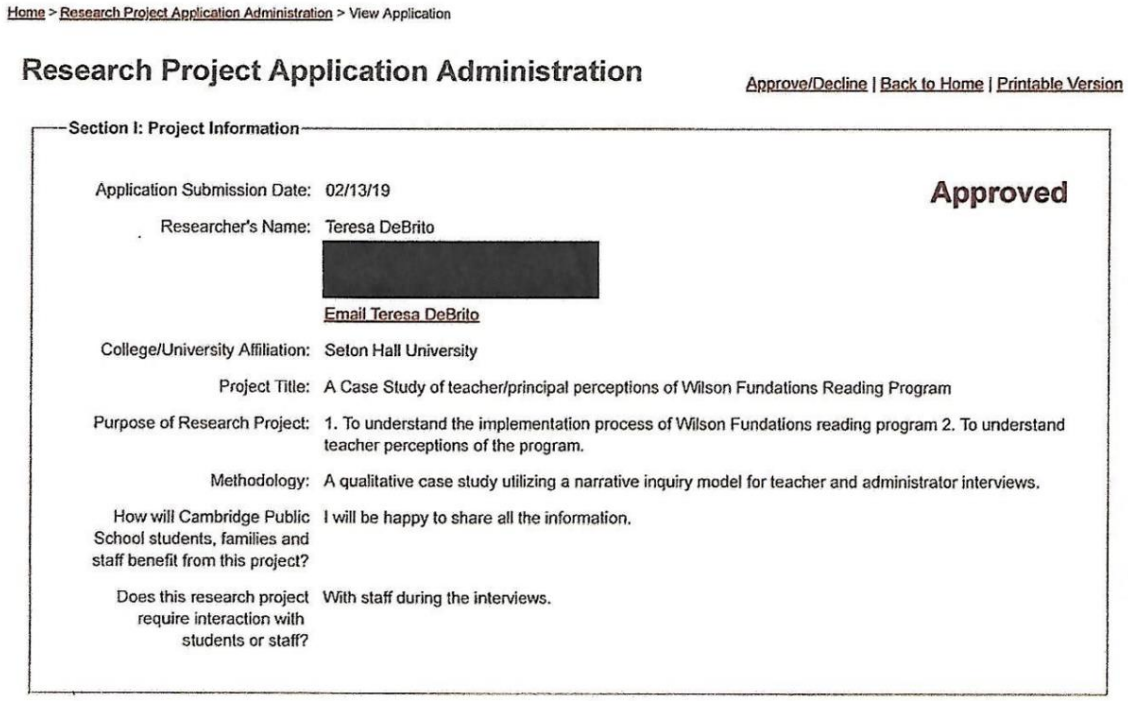
Zascavage, V. (2005, April). Children with multiple disabilities: The relationship between definition and expectation for literacy. Paper presented at Rocky Mountain Psychological Association, Phoenix, AZ.

Zascavage, V., & Keefe, C. (2004). Children with severe speech and physical disabilities: Opportunity barriers to literacy. *Focus on Autism & Other Developmental Disabilities, 19*(4), 223-234.

Zascavage, V., & Keefe, C. (2007). Reflections of models of social construct in educational decisions for students with severe speech and physical disabilities. *Journal of Disability Policy Studies, 18*, 32-42.

Appendix A

District Superintendent Approval



Home > Research Project Application Administration > View Application

Research Project Application Administration

Approve/Decline | Back to Home | Printable Version

Section I: Project Information

Approved

Application Submission Date:	02/13/19
Researcher's Name:	Teresa DeBrito
	[redacted]
	Email Teresa DeBrito
College/University Affiliation:	Seton Hall University
Project Title:	A Case Study of teacher/principal perceptions of Wilson Fundations Reading Program
Purpose of Research Project:	1. To understand the implementation process of Wilson Fundations reading program 2. To understand teacher perceptions of the program.
Methodology:	A qualitative case study utilizing a narrative inquiry model for teacher and administrator interviews.
How will Cambridge Public School students, families and staff benefit from this project?	I will be happy to share all the information.
Does this research project require interaction with students or staff?	With staff during the interviews.

Appendix B

Institutional Review Board Response

SETON HALL UNIVERSITY
1 8 5 6

May 29, 2019

[redacted]

Dear Ms. DeBrito,

The IRB is in receipt of the application for your research entitled "The Influence of the Adoption of the Phonics-Based Program, *Wilson Foundations*, on Primary Children's Reading Skills: A Single Case Study."

Your Application does not fall under the purview of the IRB because, as you describe it in your Application, it is a non-generalizable case study.

Sincerely,

Mary F. Ruzicka, Ph.D.

Mary F. Ruzicka, Ph.D.
Professor
Director, Institutional Review Board

Cc: Dr. Elaine Walker

Appendix C

Permission to use Figure 1 From *Commonwealth Learning Center*

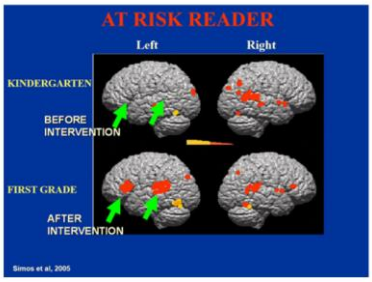
From: Anne Jack <ajack@commlearn.com>
Sent: Monday, April 27, 2020 1:15 PM
To: Teresa M DeBrito <teresa.debrito@student.shu.edu>
Subject: Permission

Hello Teresa,
Thank you for inquiring about the use of the below illustration. As you can see, it was originally from Simos et al. 2005. On our end, I have no problems with you using the illustration in your work. I wish you the best of luck in your endeavor.

Best,
Anne Jack, M.Ed.
Stratford Foundation, Inc. dba
Commonwealth Learning Center

The citation would be as follows:

Selwyn, Cecile. (*n.d.*). Dyslexia and the Brain. *Commonwealth Learning Center*. Retrieved from http://commlearn.com/dyslexia-and-the-brain/



Permission From an Original Researcher with Simos, 2005

From: Fletcher, Jack M <jmfletch@Central.UH.EDU>
Sent: Friday, April 24, 2020 6:05 PM
To: Teresa M DeBrito <teresa.debrito@student.shu.edu>
Subject: Re: Permission to cite one image from your research

Certainly, so long as it is cited correctly.

Good luck with your research.

Jack M. Fletcher, Ph.D., ABPP (ABCN)
Hugh Roy and Lillie Cranz Cullen Distinguished Professor
Associate Vice President for Research Administration
Associate Chair, Department of Psychology
University of Houston
126 Heyne
3695 Cullen Blvd
Houston TX 77204-5022
Office: 832 842 2004
Fax: 713 743 8588
jackfletcher@uh.edu

Sent from my iPad
(please forgive terseness and typos)