The Mania of Morphemic Analysis: Multisyllabic, Meaningful, Magical

Jennifer Fritz
Sacred Heart University

Recommended Citation

Fritz, J. (2018). The mania of morphemic analysis: Multisyllabic, meaningful, magical. Unpublished Certificate of Advanced Study Thesis, Sacred Heart University, Fairfield, CT. Retrieved from http://digitalcommons.sacredheart.edu/lit/2

April 24, 2018

This is to certify that the action research study by

Jennifer Fritz

jfritz@berlinschools.org

has been found to be complete and satisfactory in all respects,

and that any and all revisions as required by

CT Literacy Specialist Program have been made.

College of Education

Department of Leadership and Literacy

EDR 692 - Applied Reading and Language Arts Research

The Mania of Morphemic Analysis: Multisyllabic, Meaningful, Magical

Advisor: Dr. Karen C. Waters

ABSTRACT

As academic expectations have increased in recent years due to the rigors of the Common Core State Standards, students are encountering a greater rate of multisyllabic words earlier in their schooling. Proficiency in reading has not paralleled this upward trend. Students are not receiving sufficient instruction to enable them to successfully decode and derive meaning from the multisyllabic words in their texts. To ascertain the effects of multisyllabic instruction on student performance in upper elementary students, we formulated an instructional model to teach syllabication and word morphology to determine if explicit instruction in syllabication and structural analysis had an effect on students' overall decoding. This small-scale action research project, conducted over a six-week span included 12 upper elementary students in grades three and five, who had been identified through district assessments as struggling readers requiring tier II and III reading support. Following explicit instruction in the six syllable types, syllable patterns, affixes, and morphology, students had opportunities to practice newly-acquired skills in contextual application. Results indicated that integration of direct instruction and authentic application is an effective strategy for increasing word accuracy and comprehension. While students attained minimal gains in word reading in isolation, all students increased their instructional levels for oral reading and approached district benchmarks at the conclusion of the study.

Keywords: *syllabication, morpheme, morphological, multisyllabic, affix*

Table of Contents

Section 1: Introduction to the Study

Since the mid-1600's, the efficacy of phonics instruction has been a controversial and contentious topic in the field of education. Originating from the creation of synthetic phonics (sound-by-sound approach) by Blaise Pascal in 1655, educators began indoctrinating their pupils in the recognition of sound-symbol correspondences required to decode unfamiliar words (Rodgers, 2001). From that time, the pendulum has swung from phonics first to phonics last. The debate has continued from synthetic phonics to analytic phonics (utilizing a whole word approach) as to what clinicians consider best practice for reading instruction. Consequently, over the past 300 years, its teaching methods have fallen out of favor with educators, only to return to the forefront as reading achievement has floundered. The issue that confronts educators today is not choosing to incorporate phonics instruction into their curriculum, but how.

Whether in vogue or not, the benefits of systematic, explicit phonics instruction, are well documented. Camilli, Vargas, and Yurecko (2003) found that students in grades K-2 show greater early reading success with the inclusion of rigorous, structured phonics lessons. Reading proficiency in the early elementary grades continues to be critically important as it is linked to achievement well into high school. Cunningham and Stanovich's landmark study (1997), concluded that early literacy success is a future predictor of academic achievement, which still holds true today. Sparks, Patton, and Murdoch (2013) echoed those findings as they detailed a productive correlation between strong early literacy skills and academic growth through the tenth grade.

Moreover, because the antecedent condition for fluent, accurate decoding is the mastery of print or phonics skills, teachers of students in grades K-2 typically incorporate phonics into

their literacy block. Direct instruction in the alphabetic principle, long and short vowel combinations, and irregular vowel patterns, provides students with a strong foundational knowledge that is continually summoned as students begin to grapple with unfamiliar words. Research shows that as children exit the early elementary grades, student performance tends to decline from third to fourth grade (Toste, Williams, & Capin, 2017). The 2015 report by the National Assessment of Educational Progress (NAEP) highlighted this worrisome trend, revealing that only 36% of fourth grade students were performing at or above the proficient level in reading. It is at this juncture, as students transition from early to upper elementary instruction, that the text complexity increases substantially and students become inundated with multisyllabic words, which they are ill-equipped to attack successfully.

Background of the Study

The National Reading Panel (NRP) identified five essential components which comprise effective reading instruction: phonemic awareness, phonics, vocabulary development, fluency, and comprehension (NICHD, 2000). Educators integrate these core skills into their literacy instruction for students to become proficient readers. Consequently, the Common Core State Standards (NGA & CCSO, 2010, pp.16-17) highlighted the importance of phonics instruction as a critical foundational skill when it stipulated that students in grades from kindergarten through five "know and apply grade-level phonics and word analysis skills in decoding words." Moreover, the value and need for explicit, systematic phonics instruction in the primary grades (K-2) has been well documented (Stahl, 1992, NICHD, 2000, Camilli et al., 2003).

Nevertheless, a noticeable shift occurs as students transition to their upper elementary learning. Third grade is a pivotal year in terms of literacy because the expectation at this juncture requires that students demonstrate reading proficiency. In her seminal text, *Stages of*

Reading Development, Chall (1983) identified the demarcation that occurs in grade three when the changeover swings from learning to read to reading to learn. Due to that thinking, decoding instruction tends to be phased out and reading instruction increasingly focuses on more rigorous comprehension-based strategies.

Although explicit phonics instruction is regularly incorporated into the primary grades, decoding instruction tends to end as students exit second grade (Toste et al., 2017). Emphasis on mastery of the six syllable types, structural analysis, and word morphology is not only an organic extension of the initial decoding skills students first encounter, it has been proven to be effective (2017). The foundational skills are essential to meet the CCSS standard outlined for grades 3-5 to accurately read multisyllabic words (NGA & CCSO, 2010, p.17). Teachers in the upper elementary grades and beyond must continue to reinforce decoding strategies as needed while simultaneously providing instruction in prefixes, suffixes, root words, and syllabication patterns in order to increase reading proficiency and allow students to extend beyond the understanding of letter/sound relationships (Toste, Capin, Vaughn, Roberts, & Kearns, 2017). The use of structural analysis can decrease the number of miscues students commit during reading (Paulsen, 2004).

Rationale

To meet the rigorous demands since the inception of Common Core, many school districts have revamped their literacy curriculum to promote reading success for their students. As a result, there is a greater emphasis on reading increasingly complex informational texts. Close reading lessons teach ways to engage with text at multiple levels: identifying key ideas and details, craft and structure, and integrating the knowledge and ideas from a given text. The ability to successfully navigate complex text so intently is hindered if students lack the appropriate word

attack skills to decode what it placed before them. In fact, a major contributor to the diminished comprehension of upper elementary students is the inability to decode unfamiliar words (Foorman, et al., 1997).

The purpose of this action research project is to empower students in grades 3-5 by providing them the tools to access complex text. Strategies that incorporate knowledge and application of the six syllable types, structural analysis, and word morphology will be embedded into literacy instruction. The expectation is that direct instruction in these advanced phonics related areas will improve word recognition, increase reading fluency, and, in turn raise the level of comprehension and reading proficiency.

Problem Statement

A study conducted by Fitzgerald, Elmore, Relyea, Hiebert, and Stenner (2015) concluded that levels of text complexity have increased substantially with expectations for academic rigor with the implementation of the CCSS. Beginning as early as first grade, today's students engage with complex text that contains longer sentences and phrases and increasingly sophisticated vocabulary than were found in texts prior to the CCSS. Although the demands have been raised, the most recent findings by NAEP (2015) indicate that approximately 36% percent of fourth grade students nationally are reading at or above a level of proficient.

In contrast, according to the 2016-2017 Smarter Balanced Assessment Consortium (SBAC), 54.2 fourth grade students in the state of Connecticut have met or exceeded in terms of their reading proficiency levels. Although that marker is higher than the national level, it illustrates that nearly half of grade four students in the state are below proficient in terms of reading. Since students will need to successfully navigate challenging text from the outset of

their education, teachers must provide the appropriate tools to that ensure students can attack and comprehend the unfamiliar words which they will encounter in their reading.

Solution

Shanahan, Fisher, and Frey (2012), reported, "If you ask students what makes reading hard, they blame the words" (p.59). Texts of increased academic rigor are comprised of complex words, requiring explicit instruction that centers on strategies to unlock multisyllabic words in order to raise students' comprehension. Systematic instruction, a hallmark of literacy instruction, has resulted in greater growth in children's decoding than amorphous phonics instruction (NICHD, 2000). Sound/symbol relationships extend beyond the alphabetic principle and the recognition of short and long vowel patterns. Indeed, even first grade intervention students are encountering multisyllabic words at a rate of 23% within Fountas and Pinnell's Leveled Literacy Intervention (LLI) first three levels of texts (Murray, Munger, & Hiebert, 2014).

In order to grapple with such complex texts, throughout this action research project, students will be the recipients of explicit phonics instruction to acquire the tools needed to grapple with complex text. As such, a scope and sequence for teaching concepts of syllabication, word morphology, and structural analysis will assure a comprehensive experience in which students will have multiple opportunities to learn the skills through direct instruction, and then practice for mastery through a variety of authentic contexts. A true word study approach will translate to greater reading ability by developing decoding skills that support the comprehension component of reading (Hoover & Gough, 1990, as cited by Park & Lombardino, 2013).

Research Questions

1. What are research-based strategies for reading multisyllabic words that promote word recognition leading to increased comprehension?

2. How can upper elementary teachers integrate word study and word attack skills into a Readers' Workshop model/literacy block?

3. What role do structural analysis and word morphology play in the decoding and comprehension of polysyllabic words?

Learning Theory

Upper elementary grade students require explicit instruction to master the skills necessary to both decode and comprehend the longer words they encounter within the context of increasingly complex texts. Explicit instruction includes the following seven core components: direct explanation, teacher modeling, guided practice, independent practice, feedback, discussion, and monitoring (Reutzel, Child, Jones, & Clark, 2014). Such instruction is systematic and adheres to a gradual release of responsibility, which begins with the teacher assuming full responsibility and, over time, shifts that responsibility to the student (Fisher and Frey, 2008). It follows a natural progression that begins with focused instruction and culminates with independent learning.

The learning theory that explicit instruction aligns with is that of Lev Vygotsky. The constructivist learning theory is one in which students construct knowledge and meaning through their experiences. Vygotsky's theory of constructivism includes the Zone of Proximal Development (ZPD or ZoPed) (Fosnot, 2005). The ZPD has been defined by Vygotsky (1978, p.86) as "the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance, or in collaboration with more capable peers."

The space that exists between the known and unknown can be successfully supported with learning scaffolds. Learning scaffolds are diminished over time, and are eventually

withdrawn, allowing a student to be an independent learner (McCleod, 2012). This mirrors the

gradual release of responsibility model of explicit instruction to successfully tackle multisyllabic

words.

Section 2: Literature Review

Introduction

The teaching of phonics instruction has been debated and blasphemed, revered and polarized for the past 400 years. Since the mid 1600's, the conundrum has changed from "whether to" to "how to" teach phonics in the classroom. Current researchers have more or less come to consensus that most students require a systematized approach for learning how to negotiate unfamiliar words. Despite the inherent obstacles, explicit instruction in the reading of multisyllabic words has proven effective with its relation to improving word recognition for students (Toste et al., 2017). This section will detail noteworthy studies that not only echo that conclusion but highlight effective research-based strategies that serve to improve the decoding of multisyllabic words. While some instructional approaches center around code-based instruction and how it correlates to syllable patterns, others delve into the application of morphology, focusing on root words, prefixes, and suffixes, which is further discussed.

Analysis into the practices of syllabication, morphology, and structural analysis will validate the rationale for incorporating such practices into a literacy curriculum. Aligning with Vygotsky's constructivist theory of learning, the strategies described are meant to be learning scaffolds, temporarily put in place to promote independence for a specific skill (Fosnot, 2005). Ultimately, the goal of the teacher is to build automaticity of decoding multisyllabic words and withdraw those supports at that time. The review of literature will conclude with research that further substantiates the need for expanded multisyllabic word attack skills by detailing the increased levels of text complexity in recent years.

What the Research Says About Syllabication Instruction

Numerous studies have proven that educators who deliver explicit instruction of syllabication provide their students with the necessary tools to decode multisyllabic words (Bhattacharya and Ehri, 2004; Diliberto, Beattie, Flowers, & Algozzine, 2008; Moats, 2004; Shefelbine, 1990). While several related to the successful use of syllabication-based reading instruction exist, the majority pertain to middle school and adolescent learners. The research available relating its success for elementary aged learners is scant. The work of Shefelbine (1990) pioneered the application of syllable-based instruction for upper elementary students and documented the proven benefits.

Shefelbine's work consisted of syllable pattern instruction coupled with automaticity (Bhattacharya, 2006). In a landmark study, students in grades 4 and 6 were randomly selected to receive syllable-based instruction for a six-week period. Instruction comprised of syllable division practice, reading open and closed syllable units, and practice reading real multisyllabic words. Students in the control group received no syllable-based instruction. Results indicated that the group receiving syllable-based instruction outperformed the control group when tested on word identification, which led to the conclusion that syllabication instruction was a beneficial component to reading instruction (2006).

In their study that examined the effects of syllable skills instruction on reading achievement, Diliberto and colleagues (2008) constructed a Syllable Skills Instruction Curriculum (SSIC) or scope and sequence, detailing the appropriate sequence to promote success. Following this curriculum, a team of researchers delivered explicit instruction to a group of 83 randomly selected struggling middle school readers to supplement the core reading

program. A control group of students with a similar learning profile only received traditional reading instruction.

Initial SSIC lessons clearly defined the six syllable types: closed, open, vowel consonant e, vowel team, r-controlled, and consonant-le. Upon mastery of syllable patterns, the teacher instructed the proper location within a word to divide it into smaller, more manageable chunks. The SSIC utilized for the treatment group resulted in scores that exceeded those of the control group in the areas of word identification, word attack, and reading comprehension. Conclusions of the study support the premise that systematic instruction in syllabication enhances students' overall reading performance (Diliberto et al., 2008).

In a year-long study analyzing the effectiveness of the research-based program *LANGUAGE*!, Moats (2004) found that instruction in syllabication led to significant increases in both word recognition and reading comprehension for 555 students in grades 6 through 10. Designed for struggling adolescent readers, the program consisted of direct instruction at the word level, with a focus on analyzing syllable patterns.

Similarly, Bhattacharya and Ehri (2004) examined the effects of syllable-based instruction on word reading and spelling for 60 adolescents in grades 6-9 reading below grade level, in which the group receiving syllable training was able to decode more words correctly than the group receiving no instruction. The instruction for the treatment group consisted of reading the word aloud, defining the word, orally dividing the word into syllable parts, then blending the word parts together. Each step allowed for in the moment corrections by the teacher if necessary. Here again, the treatment group outperformed the control group by demonstrating the ability to decode a greater number of words.

Then Bhattacharya (2006) went on to apply syllable-based instruction for the successful reading of scientific content area words for middle school students. Using the syllabication strategy from their previous study (Bhattacharya & Ehri, 2004), teachers selected words deemed essential for content area knowledge along with words that could be contextualized to determine meaning but were not of the same priority. The lesson followed a *Read, Explain, Divide, Say* (REDS) format. Words were read orally by the instructor, explained, then divided into syllables and spoken again. This modeling led to a session of guided practice, followed by independent practice. Students were more prepared to engage with rigorous content area vocabulary and able to perform better on state administered science examinations (2006).

Research-based Syllabication Strategies

Syllabication instruction often incorporates the use of a vowel pattern chart or word house, which is a useful graphic organizer created by Cheyney and Cohen (1999). (see Appendix A) Following the rules of syllable division, students can break longer words into chunks and place each in the corresponding "room" of the house to assist with decoding. The use of this visual aid provides a beneficial learning scaffold for students, which can be removed upon mastery. A complementary strategy, which often precedes the utilization of a syllable pattern chart, is explicit instruction of the "spot-and-dot" strategy in which students mark the vowels in a word and follow specific rules for dividing the word into its requisite syllables (1999). (see Appendix B)

As part of an unpublished Master's thesis, Block (2016) conducted a small-scale action research project that examined the effects of incorporating the use of the spot-and-dot strategy into syllable instruction in conjunction with the syllable pattern chart for a third-grade student receiving a 14-week long reading intervention. Already familiar with clapping out multisyllabic

words in parts, intervention began with in depth explanation of the six syllable types. Upon

internalization of that concept, instruction of the spot-and-dot strategy commenced. As words

were divided, each syllable was written into the corresponding box on the syllable pattern chart.

Pre and posttest data confirmed the benefits of using the graphic organizer in tandem with the

spot-and-dot strategy. Results indicated that the practice of syllabication analysis led to

significant gains in the student's ability to read multisyllabic words (2016).

When students are not hampered by limited decoding ability, the focus of reading can

shift to comprehension (Knight-McKenna, 2008). By fostering a more concrete understanding of

syllable patterns and division, students are able to read a greater number of words, which, in turn

allows for greater comprehension (Block, 2016).

What the Research Has to Say About Morphology and Structural Analysis

Beyond the utilization of syllabic analysis as a tool to decode words of greater length, is

the addition of word morphology to a literacy curriculum. Morphemes are defined as the smallest

units of meaning of a language (Carlisle, McBride-Chang, Nagy, & Nunes, 2010).

Morphological instruction focuses on these smaller root words as well as any affixes that are

attached (Goodwin & Perkins, 2015). When incorporated into a literacy curriculum, the benefits

of instruction in word morphology and structural analysis are well documented (Kirk & Gillon,

2009; Nagy, Berninger, & Abbott, 2006; O'Connor, Beach, Sanchez, Bocian, & Flynn, 2015).

While syllabication analysis assists students with units of pronunciation, structural analysis

delves into the meaning of words through its morphemes (Nagy, Osborne, Winsor, &

O'Flahavan, 1992).

While examining middle school content area reading instruction, O'Connor and colleagues (2015) utilized a dual pronged word attack method to boost performance for 38 eighth grade struggling readers that incorporated explicit instruction in the decoding of multisyllabic words in tandem with the use of morphology-based instruction. The phonics component centered around training students using strategies found in the mnemonic ESHALOV (Every Syllable Has At Least One Vowel) to separate longer words into syllable parts (2015). Having students mark the vowels in a word is reminiscent of Cheyney and Cohen's (1999) spot-and-dot strategy.

Subsequent cycles of instruction focused on the application of meaning to the smaller syllable parts of the word. Content area academic vocabulary words were selected for analysis. The decoding scaffold was gradually phased out. At the close of the intervention, students in the treatment group outperformed those in the control group for vocabulary and comprehension strategies.

Studies Examining the Effectiveness of Structural Analysis

Kirk and Gillon (2009) studied the efficacy of a morphology-based intervention program implemented for 16 elementary school aged students over a course of 20 sessions with a focus on the morphological structure of words (prefixes, suffixes, and roots). Results revealed that students in the experimental group outperformed those in the control group in both reading and spelling accuracy. Based on their conclusions, the researchers urged educators to add morphology-based learning strategies to students requiring reading intervention (2009).

When Nagy et al., (2006) investigated whether increased morphological awareness contributed to greater literary success for a group of 607 students in grades 4 through 9, they determined such instruction resulted in numerous benefits to students. While focusing on the

areas of vocabulary, comprehension, and spelling, they concluded that evidence existed to substantiate the study of word parts, affixes, and suffixes. Students with greater recognition of morphological patterns demonstrated greater proficiency in terms of reading comprehension, vocabulary, and spelling.

Vadasy, Sanders, and Peyton (2006) designed a study to determine the effectiveness of structural analysis instruction for students in grades 2 and 3. Forty-six students received paraeducator led lessons that included chunking multisyllabic words into syllables, identifying affixes present, removal of affixes to isolate the root word. Following those steps, all word parts were put back into the original word form. This guided practice led to oral reading from grade level texts that had been preselected to ensure interactions with longer words in context. At the close of the study, students receiving structural analysis instruction demonstrated significant gains over their counterpart in the control group in areas of reading efficiency, reading comprehension, and spelling (2006).

The commercially available research-based program Reading Excellence: Word Attack & Rate Development Strategies (*REWARDS*) (Archer, Gleason, & Vachon, 2001) has been touted by numerous researchers for the flexible strategies it incorporates for students to gain proficiency in the decoding and comprehension of multisyllabic words (Archer, Gleason, & Vachon, 2003; Klee, Neyman, Brasch, McLaughlin & Stookey, 2015; Shippen, Houchins, Steventon, & Sartor, 2005). While often utilized as an intervention program for struggling readers in grades 4 through high school, as part of an unpublished doctoral dissertation, Zurybida (2007) studied the effects of the *REWARDS* program when implemented as part of a grade wide study.

A group of 137 fourth graders was instructed for nine weeks in the program's flexible structural analysis methods to take apart multisyllabic words. The research examined learning outcomes related to reading fluency and accuracy. Students categorized as low performing (intensive), middle performing (strategic) and high performing (benchmark) all demonstrated measurable gains in both areas. Also noteworthy is that once the instructional period ended there was minimal skill regression (Zurybida, 2007).

The CCSS has emphasized the increased use of informational texts, which contributes to the idea that students are now faced with higher level academic vocabulary (Goodwin and Perkins, 2015). By integrating morphological analysis, students are empowered to unlock up to 60% of unknown words (2015). Goodwin and Perkins (2015) found that "The inclusion of word solving is perhaps the most critical component of instruction" (p. 513). Beyond exhibiting greater proficiency decoding longer, more complex words, students demonstrate greater levels of reading comprehension as well (Nagy et al., 2006).

Research-based Word Morphology and Structural Analysis Strategies

Kieffer and Lesaux (2007) delineated the components morphology instruction should include. Students need to be well versed in their knowledge of affixes, root words, and how to adjust sounds within a word to extract roots. Extending the work of Lesaux, Prince (2009) listed primary strategies for teaching morphology. Such instruction should be embedded with vocabulary lessons in the upper elementary years. It should be treated as a cognitive word attack strategy. Additionally, students who are familiar with foreign languages, such as Spanish, French, or Italian, can apply cognates to words that share common origins (2009).

Toste et al., (2017) shared successful morphology instruction strategies based off their research. They detailed specific activities that comprised an intervention lesson for struggling readers in grades 3-5. Affix learning is the first component of instruction. Using an activity known as Affix Bank, the teacher provides explicit instruction in the recognition and understanding of the most commonly used prefixes and suffixes. (see Appendix C) The affix is named, used in an example, and defined. Students then have the opportunity to generate additional known words that contain that affix. Students build an affix bank, organized by prefixes and suffixes, which they can continue to refer to as they read. There is frequent review of the affixes learned to promote automaticity (2017).

The *peel-off reading strategy* (PORS) (Lovett, Lacerenza, & Borden, 2000) teaches students to remove prefixes and suffixes to isolate the base word. An accompanying activity for this is Beat the Clock (Toste et al., 2017). Students work off a list of multisyllabic words and after teacher-led modeling in underlining affixes, chorally reading the identified affixes and the entire word, students participate in timed reading of the word list. (see Appendix D)

The research-based *REWARDS* program (Archer et al., 2001) emphasizes the use of flexible strategies to decode and comprehend multisyllabic words. Since vowel patterns do not always follow learned rules, students need to be well-versed in transforming sounds to determine if the use of a different sound assists in reading a particular word. Following the model of gradual release, the instruction begins with stronger learning scaffolds, the overt strategies, tantamount to explicit instruction, that are slowly withdrawn and replaced with covert strategies, embedded or implicit instruction, as students begin to demonstrate increased proficiency. (see Appendix E)

The overt strategy initially involves the circling of prefixes and suffixes, underlining vowel sounds, saying the parts of the word separately, repeating those parts quickly, and finally, reading it as a real word. As automaticity develops, the instructional approach shifts to a covert strategy. Students scan the word for affixes and vowel sounds, then say the parts of the word they have identified. Those word parts are repeated quicker and students ultimately try to make it a real word.

Words of greater length are not only multisyllabic, they contain multiple morphemes as well (Kearns, 2015). The incorporation of morphology-based instruction to assist students in the reading and comprehension of longer words contributes to students' reading development and has profound educational value (Carlisle et al., 2010).

Evolving Text Complexity in Grade Level Text Affirms the Need for Teaching Syllabication and Structural Analysis

Fitzgerald and colleagues (2015) examined seven first grade anthology core reading programs from one publisher, Scott Foresman, dating from 1962 to 2015. Researchers studied basal readers from the years 1962, 1971, 1983, 1993, 2000, 2007, and 2013, to determine if, in fact, there was a palpable shift in level of text complexity over time. The study concluded there was a measurable increase of text complexity levels when comparing anthology selections from 1962 to 2013. (Fitzgerald et al., 2015).

The areas showing the most pronounced shifts towards increasing difficulty were regarding syllables and decoding. Additionally, the results indicated that program years 2007 and 2013, contained the steepest progressions for decoding skills necessary for reading proficiency.

Analysis of the 2013 basal also brought a sharp increase in demands in recognition of syllable patterns and overall word structures (Fitzgerald et al., 2015).

Notably, this trend extends beyond traditional commercial reading programs utilized for core instruction in classrooms. Even students who receive reading support services encounter multisyllabic words in their texts. Murray et al. (2014) examined two highly utilized, literacy-based intervention programs designed for struggling grade-one readers, in which researchers analyzed features of both Fountas and Pinnell's Leveled Literacy Intervention (LLI, 2008) and My Sidewalks (Scott Foresman, 2008). Analysis for complexity at the word, text, and program level revealed a significant number of multisyllabic words, even at the lowest levels of text (Murray et al., 2014).

Clearly, the prevalence of multisyllabic words grows exponentially as students progress through the grades. Consequently, the surge of nearly 20,000 words greater than one syllable from grade 3 on (Kearns et al., 2016), confirms the need for explicit instruction in structural analysis as part-and-parcel of phonics instruction in the early grades. Despite the fact that students in the upper elementary grades encounter longer, more challenging words in their texts, it is at this point that the literacy focus shifts away from word reading and decoding skills and towards reading for understanding (Toste et al., 2017). With a decrease in phonics related instruction, struggling readers are provided fewer opportunities to gain proficiency in the word reading skills necessary to unlock the meaning of more sophisticated text (2017).

Section 3: Research Method

Introduction

This action research project included a dual pronged purpose. The primary goal was to underscore the importance and benefits of multisyllabic instruction for elementary school students. The secondary focus was to examine research-based strategies to determine their effectiveness in the context of a small group setting. The outcomes aimed to delineate successful components for decoding and comprehending longer words to provide both classroom and reading intervention teachers with user-friendly, accessible ideas to incorporate into their teaching.

In order to determine the teachers' needs regarding multisyllabic instruction, I distributed an online survey (see Appendix F) to certified staff members of a K-5 elementary in a suburban New England town. Twenty-five classroom teachers, 3 literacy specialists, and 4 special education teachers comprised the staff surveyed. Nearly 67% of the respondents have been teaching for ten years or more. Ninety-five percent indicated that their students would be more proficient readers if they had additional strategies to decode multisyllabic words. Despite the potential as powerful strategies for decoding multisyllabic words and discovering word meaning, only 41% considered themselves well prepared to teach syllabication and word morphology in the classroom, with 35% indicating they felt inadequately prepared for teaching this skill.

Participants

This pilot study consisted of a total of twelve students in grades 3 and 5 selected through convenience sampling. Although the small sample would not be sufficient to generalize results, the intent and purpose of this action research project was to enhance and improve my own

practice in the pedagogy of syllabication. If I were successful, then I would be better positioned to conduct staff development to colleagues and would be able to replicate the study using a greater sample in the future.

Universal district assessments administered at the beginning of the 2017-2018 school year identified all participants as struggling readers. Each student performed a minimum of one level below the expected grade level benchmark as measured by the Fountas & Pinnell Benchmark Assessment (F&P). The F&P Benchmark Assessment System (Fountas & Pinnell, 2011) consists of a set of graded passages utilized by teachers to determine a student's instructional and independent reading levels for guided reading groups as well as independent reading time. The children, designated for either Tier II or Tier III reading support, received small group pull out instruction 3-5 times a week for a 30-minute block.

Group participants attended a K-5 elementary school with a student body of approximately 500 (CSDE, 2017). Eighty five percent of the students were Caucasian and less than 3% were categorized as English Language Learners (ELL). SBAC results from the 2015-2016 school year indicated that 69.9 percent of students in grades 3-5 scored at level 3 (meeting) or higher (exceeding) for English Language Arts (ELA).

Materials

As the action research project commenced, I assessed students' proficiency of multisyllabic word reading through various screening methods. For grade 3 participants, subtest L from the Consortium on Reading Excellence - Phonics Survey (CORE-PS) (Diamond & Thorsnes, 2008) measured students' ability to read multisyllabic words. The CORE-PS is a criterion-referenced assessment with an interrater reliability of .96 for the reading and decoding

knowledge section (subtests E-L), .98 for test/retest reliability and .97 for internal consistency, specifically the subtest measuring multisyllabic word reading (Reutzel, Brandt, Fawson, & Jones, 2014). The instrument was selected because it is widely-used, inexpensive, easy to administer, and contained a subtest specific to the skill measured as part of the action research project.

The subtest consisted of 16 real words and 8 pseudo words, assessing students' ability to apply phonics rules to unknown words. The benchmark score was 21 words read correctly. Students reading 15-20 words correct required strategic intervention, and students scoring below 15 were categorized as in need of intensive instruction.

Administration of the multisyllabic word reading fluency test from the *REWARDS* program (Archer et al., 2001) assessed grade 5 participants' proficiency of multisyllabic word reading. While the pretests and posttests associated with the *REWARDS* program were not norm-referenced, "they are designed as growth measures to show student progress from beginning to end" (M. Britt, personal communication, November 27, 2017). Telephone and electronic communication with Voyager Sopris Learning, the publisher of *REWARDS*, yielded no actual data regarding the reliability of the program. Comparable research projects reported an interrater reliability rating of 99.6 (Klee et al., 2015).

The test was a one-minute probe in which students read as many multisyllabic words as possible from a list of 63 words. Students received scores on word accuracy and the total number of word parts read correctly. If a student failed to correctly read a word within three seconds, the proctor prompted the child to move to the next item. This measure was chosen due to its integration within the research-based *REWARDS* program. This action research project utilized

both the overt and covert strategies from the program to teach students to break down longer

words and construct meaning through the understanding of affixes and roots.

Procedure

Over the course of a six-week period, third grade participants received intervention

services five days a week for a duration of thirty minutes (see Appendix G). Grade five students

participated in the intervention three times a week for thirty minutes as well. Their '*pull-out*'

instructional time included research-based strategies highlighting word attack skills for

multisyllabic words. Initial lessons focused on developing students' awareness of visual syllable

patterns within words (Duggins, 1968). Explicit instruction in the six syllable types followed.

Students had the opportunity to sort single syllable words selected from instructional level texts

through the use of a vowel pattern chart (Cheyney & Cohen, 1999).

Upon mastery of syllable patterns, lessons shifted to transferring that knowledge to

multisyllabic words. Instruction commenced in the use of the spot-and-dot strategy (Cheyney &

Cohen, 1999) to break words into their prescribed pronounceable parts. To assist with correct

decoding of these longer words, students placed syllables into the correct area of the syllable

pattern chart. As the automaticity reading multisyllabic words increased, the scaffold of the chart

was removed.

Students also learned several strategies that incorporated morphological analysis.

Participants received explicit instruction in the identification and meanings of prefixes and

suffixes. Teaching continued in the utilization of the *peel-off reading strategy* (PORS) to

separate affixes from root words (Lovett et al., 2000). Students created an affix bank graphic

organizer to which they added new prefixes and suffixes. Multiple opportunities for frequent

review existed, either teacher-led, by students working in pairs, or by students independently. Activities such as *Beat the Clock* provided guided and independent practice decoding multisyllabic words.

Additionally, students received instruction in the overt and covert strategies of the *REWARDS* program (Archer et al., 2001). The overt strategy taught the process of circling affixes, underlining vowels to assist in segmenting words into pronounceable parts, saying the parts of the word, and ultimately reading the word in its entirety. Through repeated practice, the learning scaffold of marking words was phased out and replaced by a covert strategy to read longer words. When using the covert strategy, students scanned the word to identify affixes, then were able to read the words in parts, then as a whole.

In conjunction with teacher modeling, guided practice, and independent practice, students had the opportunity to interact with connected text to hone the skills of decoding multisyllabic words and determining meaning through context. Posttest administration of the CORE-PS and the *REWARDS* Multisyllabic Word Reading Fluency Test revealed the extent to which students increased their skill in the decoding of multisyllabic words.

Section 4: Data Collection

Introduction

To measure academic progress of grade five students over the course of the intervention period, I considered three separate data points. At the beginning of the action research project, administration of the San Diego Quick Assessment determined each student's initial independent, instructional, and frustration reading levels (Shanker & Cockrum, 2013). The Multisyllabic Word Reading Fluency Test recorded the number of correct word parts read in a one-minute timed probe, as well as the number of correct whole words reads within that time span. To triangulate the data, a comparison of fall and winter Fountas and Pinnell (F&P) Benchmark levels (Fountas & Pinnell, 2011) highlighted student achievement at the close of the six-week period.

The assessment tool utilized to document the progress of grade three students was subtest L of the CORE Phonics Survey (Diamond & Thornes, 2008), which measured students' ability to decode real and pseudo multisyllabic words. Additionally, I examined fall and winter F&P Benchmark levels to determine academic progress as a result of the intervention.

Data Analysis

Administration of the San Diego Quick Assessment or Graded Word List (GWL), a criterion-referenced assessment that assesses the extent to which a student can read words in isolation, measured the independent reading levels of grade five students (see Table 1). The lists are comprised of sight words and grade level words. At the beginning of the intervention period, the independent reading level for 75% (n=6) of the students was grade 4. Twenty-five percent (n=2) were already functioning on grade level.

From pre to post testing, all students (n=8) increased their score for independent word recognition as measured by the San Diego Quick Assessment. Fifty percent (n=4) of the students increased their score from grade four to grade five, 27 percent (n=3) increased their score to sixth grade, and 12 percent (n=1) of the students increased their score for independent word recognition by two levels, from fifth to seventh grade. Analysis of the scores revealed that as a result of the intervention half of the students (n=4) performed at grade level as measured by this assessment. The remaining 50 percent (n=4) performed above grade level.

These increases, achieved over a short span of instruction, revealed the impact this intervention had on student achievement. Prior to the start of the intervention, only half (n=4) of the students performed on grade level, and at post testing all (n=8) reached or surpassed grade level expectations as measured by the GWL. These gains can be attributed to students' increased interactions with and strategies provided to read and understand multisyllabic words. The thirty-minute block of pull out instruction, three times per week focused on word attack strategies to promote automaticity when reading multisyllabic words. Students received explicit instruction in syllable patterns to assist with decoding and morphological analysis to enable the successful breakdown of longer words.

The Multisyllabic Word Reading Fluency Test, a one-minute timed probe, measured the number of word parts students read correctly (see Table 2). Although it is not a norm-referenced assessment, the *REWARDS* program utilizes this assessment to measure student growth from the beginning to the end of program instruction (Archer et al., 2001). Students received credit for each morpheme of a multisyllabic word that was read correctly. All students (n=8) increased their skill in accurately reading morphemes in multisyllabic words. Student 1 increased his score from 83 to 120, resulting in a net gain of 37-word parts. Student 2 increased his score from 56 to

83, resulting in a net gain of 27-word parts. Student 3 increased his score from 83 to 93, resulting in a net gain of 10-word parts. Student 4 increased his score from 131 to 144, resulting in a net gain of 13-word parts. Student 5 increased his score from 75 to 84, resulting in a net gain of 9-correct word parts. Student 6 increased her score from 58 to 66, resulting in a net gain of 8-word parts. Student 7 increased her score from 40 to 49, resulting in a net gain of 9-word parts. Student 8 increased his score from 59 to 69, resulting in a net increase of 10-word parts. Students, on average increased their scores by 15-word parts read correctly from pre to post testing. The intervention provided students with ample opportunities for both guided and independent practice, which applied to the covert and overt *REWARDS* strategies wherein students learned to identify and make meaning from affixes and root words (2001). Analysis of the data revealed that while all student (n=8) improved their performance on this assessment, only 25 percent (n=2) of the students achieved gains that exceeded the mean score of 15. Therefore, the increases of the group as a whole were not statistically significant to determine the impact of the intervention.

The Multisyllabic Word Reading Fluency Test provided an additional data point, which represented students' success in reading multisyllabic words in their entirety (see Table 3). From pre to posttest, all grade five students (n=8) exhibited gains on this aspect of the probe. Student 1 increased his score from 23 to 54, resulting in a net gain of 31 whole words read correctly. Student 2 increased his score from 17 to 23 words, resulting in a net gain of 6. Student 3 increased his score from 28 to 32, resulting in a net gain of 4. Student 4 increased his score from 35 to 43, resulting in a net gain of 8. Student 5 increased his score from 26 to 27, resulting in a net gain of 1. Student 6 increased her score from 21 to 23, resulting in a net gain of 2. Student 7 increased her score from 14 to 19, resulting in a net gain of 5. Student 8 increased his score from

22 to 23, resulting in a net gain of 1. On average, the students increased their scores by a total of 7 whole words read correctly. The increased ability to accurately read multisyllabic words can be attributed to the repeated practice which focused on promoting automaticity when reading longer words. As word reading became more fluent, students phased out the scaffolded overt decoding strategy and began to utilize the covert decoding strategies from the *REWARDS* program (Archer et al., 2001) in order to read multisyllabic words with greater accuracy and efficiency. Comparable to the data provided in Table 2, while all students (n=8) increased their ability to accurately read multisyllabic words in isolation, only 25 percent (n=2) demonstrated an increase that exceed the mean for the group. Since the Multisyllabic Word Ready Fluency Test carries no norms, it is difficult to attest to the validity of this assessment, as its intent is to simply document student growth as a result of the instructional strategies delivered.

The Fountas and Pinnell Benchmark Assessment System (F&P BAS), administered in the fall and the winter, measured students' instructional reading levels (see Table 4). The F&P BAS consists of a running record and a comprehension conversation. The scores are aligned with Fountas and Pinnell's gradient system using the letters A-Z. For contextual reference, Level P corresponds to the beginning of grade four, Level R corresponds to the middle of grade four. Level T corresponds to the beginning of grade five. Level U corresponds to the middle of grade five.

Table 4 contains the most significant data cultivated from the research project. From pre to post testing, 75 percent (n=6) of the grade five students increased their instructional reading level by two levels as measured by the Fountas and Pinnell Benchmark Assessment System. Twelve percent (n=1) of the students increased their instructional reading level by three levels, from instructional level R to instructional level U. Twelve percent (n=1) increased their

instructional reading level by four levels, from instructional level P to instructional level T. From pre to post testing 75 percent (n=6) of the students achieved reading levels classified as approaching goal. Twelve percent (n=1) of the students achieved an instructional reading level classified as meeting goal. Texts in the R/S/T band, ranging from the middle of grade four through the first half of grade five, contain higher incidences of multisyllabic words and there is minimal picture support to assist with meaning. Students exhibited greater facility required to read multisyllabic words and demonstrated greater comprehension of those words in context.

The increased reading levels resulted from the instruction disseminated during the intervention period. The addition of the syllabication and morphology strategies provided the students with word attack skills beyond those they were previously taught. These strategies served as a helpful learning resource for students to improve their decoding and ability to derive meaning while reading.

Subtest L of the CORE Phonics survey measured the ability of grade 3 students to decode real and pseudo multisyllabic words (see table 5). From pre to post testing, all third-grade students (n=4) demonstrated an increased ability to accurately read multisyllabic words. Student 1 increased his score from 13 to 16 words read correctly, resulting in a net gain of three words. Student 2 increased her score from 5 to 13, resulting in a net gain of eight words. Student 3 increased her score from 3 to 9, resulting in a net gain of six words. Student 4 increased her score from 7 to 14, resulting in a net gain of seven words. On average, the students increased their scores by 6 words read correctly. With pretest scores below 14, all students (n=4) scored in the intensive category, which designated the need for tier III intervention (Diamond & Thorsnes, 2008). While all students (n=4) increased their scores from pre to post testing, 75 percent (n=3) remained in the intensive category. Twenty-five percent (n=1) of the students scored in the

strategic category for instruction. The benchmark score for this subtest, which contains 24 items, is 21 words read correctly (2008). The growth achieved is connected to the explicit instruction students received in syllabication and strategies that included spot and dot (Cheyney & Cohen, 1999). However, these results do not confirm the correlation between syllabication instruction and increased reading comprehension. Based on the performance of the majority of the group, additional instruction is needed for students to solidify their ability to decode multisyllabic words.

Fountas and Pinnell benchmark reading levels measured third grade students' instructional reading levels in the fall and winter (see table 6). By the end of the intervention period all students (n=4) had increased their instructional reading level by a minimum of one level. Half (n=2) of the students increased their instructional reading level by one level. Student 3 increased from instructional level J to instructional level K and Student 4 increased from instructional level L to instructional level M. Twenty-five percent (n=1) of the students demonstrated an increase of two levels, from instructional level J to instructional level K. Twenty-five percent (n=1) of the students demonstrated an increase of four levels from instructional level J to instructional level N. Instructional level J corresponds to beginning of second grade. Instructional levels K and L correspond to the middle of second grade. Instructional level M includes a range from the end of grade two through the beginning of grade three. Instructional level N covers a range from the beginning of third grade through mid-year. Analysis of this data revealed that a correlation between instruction in syllabication and structural analysis translates to increased levels of reading comprehension. The explicit instruction students received led to the successful decoding and making meaning from

multisyllabic words in context, which in turn, led to increased accuracy and overall

comprehension.

Section 5: Discussion, Recommendations, Conclusion

Overview

As educators today strive to incorporate the Common Core State Standards into classroom instruction it appears as though specific foundational standards are not being afforded the appropriate level of attention. Beginning in second grade, the CCSS stipulate that students should have the ability to decode two-syllable words that follow basic patterns (NGA & CCSO, 2010, p.16). Second grade standards include decoding words with common prefixes and suffixes (2010, p.16). Additionally, the term *multisyllabic* first appears in the third-grade strand for phonics and word recognition in the CCSS, while fourth grade instructional concepts include teaching word morphology to promote comprehension (2010, p.17). Through its repeated references it is evident that the CCSS values multisyllabic instruction, deeming it necessary for students in the upper elementary grades to advance their decoding skills in order to increase comprehension.

Despite its inherent value, explicit instruction in structural analysis has not been routinized in elementary classrooms beyond second grade (Toste et al, 2017). The data stemming from the action research project revealed that the addition of syllabication instruction and structural analysis resulted in increases in overall reading achievement. Students exhibited the greatest increases when applying the instructional strategies in context through opportunities to engage with connected text. However, practice in isolation did not yield comparable gains.

We now turn to the research questions that informed the purpose of this study to gain further insights into the effects of syllabication and structural analysis on student performance.

Findings and Interpretations for Research Question 1

The answer the first question, "What are research-based strategies for reading multisyllabic words that promote word recognition leading to increased comprehension," is anchored in the findings of (Archer et al., 2001; Cheyney & Cohen, 1999; Lovett et al., 2000) in which they asserted the existence of numerous research-based strategies promoting the successful decoding of multisyllabic words to enable students to derive meaning. Although the research field is divided as to the benefits of syllabication instruction, there is greater consensus as to the merits of morphological analysis (Kearns, 2015). Not only did the teaching of affixes and root words assist students in accurately reading longer words but aided in constructing meaning in when encountering these words in context.

Findings and Interpretations for Research Question 2

Referring to the sample intervention lesson plan (see Appendix G) reveals the answer to the second question. "How can upper elementary teachers integrate word study and word attack skills into a Readers' Workshop model/literacy block?" Throughout the action research project, instruction followed a thirty-minute lesson format. The modeling and guided practice segments of the lessons fit seamlessly within a Readers' Workshop model or literacy block as a mini lesson. Additionally, teachers can deliver instruction through strategy groups. Zurybida (2007) examined the efficacy of implementing the *REWARDS* program (Archer et al., 2001) through whole group instruction. Data revealed that syllabication and morphological instruction afforded the greatest benefits when students had the opportunity to apply these strategies within connected text. Therefore, teachers can deliver a mini lesson, allow time for guided practice, then utilize independent reading time for students to transfer their learning to their own texts. Conferring one-on-one provides informal assessment data to determine student comprehension.

Findings and Interpretations for Research Question 3

Analysis of student F&P benchmark scores provides the answer to the third research question, "What role do structural analysis and word morphology play in the decoding and comprehension of polysyllabic words?" Instruction in morphological analysis provided students additional strategies to derive meaning from multisyllabic words in their texts. By isolating root words through the removal affixes attached to words, students had greater facility understanding multisyllabic words. Through the lessons delivered, students comprehended the definitions of prefixes and suffixes, and were then able to unlock word meaning. When interacting with connected text, students demonstrated higher levels of accuracy in terms of their decoding and higher levels of comprehension as measured by their F&P benchmark scores.

Recommendations for Further Study

Having documented the benefits of multisyllabic instruction with a small sample, the issue of replication using a larger sample would permit a comparison between students who received direct instruction of word morphology and those who did not. The recently completed project included a small sample size with no statistical significance; however, the small number of participants is acknowledged as a limitation of the study. Comparing results between a control group and a treatment group would further validate the results. Expansion to include additional classrooms across the district would provide a greater participant pool with increased student diversity.

Additional measures, inclusive of norm-referenced assessments, should be utilized to validate results, as all the assessments used were criterion referenced. Incorporating a norm-referenced assessment, such as the Slosson Oral Reading Test (SORT), would provide beneficial statistical data to assist in validating the outcomes of the instruction (Slosson & Nicholson, 2002).

Recommendations include the integration of syllabication instruction and word morphology lessons into literacy lessons for grades 3-5. Introductory instruction in syllable patterns in grade 2 would ensure familiarity with morphological terminology in students before the start of grade 3. Prior to instruction, professional development would introduce teachers to effective strategies and assist them with lesson placement within their literacy block. Modeling by the reading consultant or other members of the reading team at grade level meetings or in a classroom setting would enable teachers to see these strategies delivered before implementing them in their own classrooms.

Incorporating an explicit approach to the decoding of multisyllabic words can open up a world of reading to students, particularly when the benefits of direct instruction have yielded long-lasting effects in students' overall reading achievement. Thus, renewed focus on decoding multisyllabic words and deriving meaning from them has the potential to increase students' literacy achievement.

References

Archer, A.L., Gleason, M.M., & Vachon, V.L. (2001). *REWARDS intermediate*. Dallas, TX:

Voyager Sopris Learning.

Archer, A. L., Gleason, M. M., & Vachon, V. L. (2003). Decoding and fluency: foundation skills

for struggling older readers. *Learning Disability Quarterly,26*(2), 89.

doi:10.2307/1593592

Bhattacharya, A. (2006). Syllable-based reading strategy for mastery of scientific

information. *Remedial and Special Education,27*(2), 116-123.

doi:10.1177/07419325060270020201

Bhattacharya, A., & Ehri, L. C. (2004). Graphosyllabic analysis helps adolescent struggling

readers read and spell words. *Journal of Learning Disabilities,37*(4), 331-348.

doi:10.1177/00222194040370040501

Block, P.C. (2016). *The effects of a reading intervention with the spot-and-dot syllabication

strategy in conjunction with the vowel pattern chart*. Unpublished master's thesis,

Cardinal Stritch University, Mikwaukee, Wisconsin.

Camilli, G., Vargas, S., & Yurecko, M. (2003) Teaching children to read: the fragile link

between science & federal education policy. *Education Policy Analysis Archives*, *Vol 11,

P 15 (2003)*, 15.

Carlisle, J. F., McBride-Chang, C., Nagy, W., & Nunes, T. (2010). Effects of instruction in

morphological awareness on literacy achievement: an integrative review. *Reading

Research Quarterly,45*(4), 464-487. doi:10.1598/rrq.45.4.5

Chall, J. S. (1983). *Stages of reading development*. New York: McGraw-Hill.

Cheyney, W. & Cohen, J. E. (1999). *Focus on phonics: assessment and instruction*. Bothell,

WA: The Wright Group.

Connecticut State Department of Education. (2017). *School profile and performance report for*

school year 2015-2016. Retrieved from the Berlin Schools website:

http://www.berlinschools.org/uploaded/files/District/2016-

17/Central_Office/Griswold_Report.pdf

Cunningham, A. E., & Stanovich, K. E. (1997). Early reading acquisition and its relation to

reading experience and ability 10 years later. *Developmental Psychology,* (6), 934.

Diamond, L. & Thorsnes, B.J. (2008). *Assessing reading: multiple measures*. Novato, CA: Arena

Press.

Diliberto, J. A., Beattie, J. R., Flowers, C. P., & Algozzine, R. F. (2008). Effects of teaching

syllable skills instruction on reading achievement in struggling middle school

readers. *Literacy Research and Instruction, 48*(1), 14-27.

doi:10.1080/19388070802226253

Duggins, L.A., (1968). *Developing children's perceptual skills in reading*. Wilton, CT: Mediax

Incorporated.

Fisher, D. and N. Frey (2008). *Better Learning Through Structured Teaching: A Framework for*

the Gradual Release of Responsibility, Association for Supervision and Curriculum

Development, Alexandria, Virginia.

Fitzgerald, J., Elmore, J., Relyea, J. E., Hiebert, E. H., & Stenner, A. J. (2016). Has first-grade

        core reading program text complexity changed across six decades?. *Reading Research*

        Quarterly, *51*(1), 7-28. doi:10.1002/rrq.115

Foorman, B. R., Francis, D. J., Fletcher, J. M., Schatschneider, C., & Mehta, P. (1998). The role

        of instruction in learning to read: preventing reading failure in at-risk children. *Journal of*

        Educational Psychology, 90, 1–15.

Fosnot, C. T. (2005). *Constructivism: theory, perspectives, and practice*. New York: Teachers

        College Press.

Fountas, I.C. and Pinnell, G.S. (2011). *Fountas and pinnell benchmark assessment system 2.*

        Portsmouth, NH: Heinemann.

Fountas, I.C. and Pinnell, G.S. (2008). *Fountas and pinnell leveled literacy intervention.*

        Portsmouth, NH: Heinemann.

Goodwin, A. P., & Perkins, J. (2015). Word detectives. *The Reading Teacher,68*(7), 510-523.

        doi:10.1002/trtr.1342

Kearns, D. (2015). How elementary-age children read polysyllabic polymorphemic words.

        Journal of Educational Psychology, 107(2), 364 – 390.

Kearns, D. M., Steacy, L. M., Compton, D. L., Gilbert, J. K., Goodwin, A. P., Cho, E., et al.

        (2016). modeling polymorphemic word recognition: exploring differences among

        children with early-emerging and late-emerging word reading difficulty. *Journal of*

        Learning Disabilities, 49(4), 368-394. Retrieved October 9, 2017.

Kieffer, M. J., & Lesaux, N. K. (2007). Breaking down words to build meaning: morphology,

   vocabulary, and reading comprehension in the urban classroom. *The Reading

   Teacher,61*(2), 134-144. doi:10.1598/rt.61.2.3

Kirk, C., & Gillon, G. T. (2009). Integrated morphological awareness intervention as a tool for

   improving literacy. *Language Speech and Hearing Services in Schools,40*(3), 341.

   doi:10.1044/0161-1461(2008/08-0009)

Klee, I. C., Neyman, J., Brasch, S. M., McLaughlin, T. F., & Stookey, S. (2015). The effect

   using the REWARDS® reading program on vowel sounds, word part, and prefix and

   suffix identification in multi-syllabic words: a case report. *Educational Research

   Quarterly*, *38*(4), 31-50.

Knight-McKenna, M. (2008). Syllable types. *Teaching Exceptional Children*, *40*(3), 18-24.

Lovett, M. W., Lacerenza, L., & Borden, S. L. (2000). Putting struggling readers on the PHAST

   track. *Journal of Learning Disabilities,33*(5), 458-476.

   doi:10.1177/002221940003300507

McLeod, S. A. (2012). Zone of proximal development. Retrieved from

   www.simplypsychology.org/Zone-of-Proximal-Development.html

Moats, L. C. (2004). Efficacy of a structured, systematic language curriculum For adolescent

   poor readers. *Reading & Writing Quarterly,20*(2), 145-159.

   doi:10.1080/10573560490262082

Murray, M. S., Munger, K. A., & Hiebert, E. H. (2014). An analysis of two reading intervention

   programs. *Elementary School Journal*, *114*(4), 479-500.

Nagy, W., Berninger, V. W., & Abbott, R. D. (2006). Contributions of morphology beyond

   phonology to literacy outcomes of upper elementary and middle-school students. *Journal

   of Educational Psychology,98*(1), 134-147. doi:10.1037/0022-0663.98.1.134

Nagy, W.E., Osborn, J., Winsor, P., & O'Flavahan, J. (1992, May). Reading Education Reports –

   Center for the Study of Reading. Retrieved October 24, 2017, from

   https://www.ideals.illinois.edu/handle/2142/17466

National Assessment of Educational Progress. (2015). *Mathematics and Reading Assessments

   2015*. Retrieved July, 23, 2017, from the Nation's Report Card website:

   http://nationsreportcard.gov

National Governors Association Center for Best Practices & Council of Chief State School

   Officers. (2010). Common Core State Standards for English Language Arts and Literacy

   in History/Social Studies, Science, and Technical Subjects: About the standards.

   Washington, DC: authors. Retrieved from www.corestandards.org/aboutthe-standards

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.*

   Rockville, MD: National Institutes of Child Health and Human Development.

O'Connor, R. E., Beach, K. D., Sanchez, V. M., Bocian, K. M., & Flynn, L. J. (2015). Building

   BRIDGES: a design experiment to improve reading and united states history knowledge

   of poor readers in eighth grade. *Exceptional Children*, *81*(4), 399-425.

   doi:10.1177/0014402914563706

Park, Y., & Lombardino, L. J. (2013). Exploring the nature of effective word study

      instruction for struggling readers: practical Applications for broader perspective of the

      simple view of reading. *International Journal of Special Education, 28*(1), 81-90.

Paulsen, K., & the IRIS Center. (2004). *Fluency and word identification:*

      Grades 3–5. Retrieved from http://iris.peabody.vanderbilt.edu/wp-

      content/uploads/pdf_case_ studies/ics_u.pdf

Prince, R.E.C. (2009). *Usable knowledge from Harvard Graduate School of Education -*

      Morphological analysis: New light on a vital reading skill, HGSE Nonie

      Lesaux. Retrieved from **http://www.uknow.gse.harvard.edu/teaching/TC102-407.html**

Reading Street. (2008). Glenview, IL: Scott Foresman

Reutzel, D. R., Brandt, L., Fawson, P. C., & Jones, C. D. (2014). Exploration of the consortium

      on reading excellence phonics survey. *The Elementary School Journal,115*(1), 49-72.

      doi:10.1086/676946

Reutzel, D. R., Child, A., Jones, C. D., & Clark, S. K. (2014). Explicit instruction in core reading

      programs. *Elementary School Journal*, *114*(3), 406-430.

Rodgers, G.E. (2001) *The history of beginning reading: from teaching by "sound" to teaching*

      by "meaning". Place of publication not identified: 1stBooks.

Shanahan, T., Fisher, D., & Frey, N. (2012). The challenge of challenging text. *Educational*

      Leadership, 69(6), 58-62.

Shanker, J. L., & Cockrum, W. A. (2019). *Ekwall/Shanker reading inventory*. Boston: Pearson

      Education, Inc.

Shefelbine, J. (1990). A syllable-unit approach to teaching decoding of polysyllabic words to fourth- and sixth-grade disabled readers. In J. Zutell & S. McCormick (Eds.), Literacy theory and research: Analysis from multiple paradigms (pp. 223-230). Chicago: National Reading Conference.

Shippen, M. E., Houchins, D. E., Steventon, C., & Sartor, D. (2005). A comparison of two direct instruction reading programs for urban middle school students. *Remedial and Special Education,26*(3), 175-182. doi:10.1177/07419325050260030501

Slosson, R. L., & Nicholson, R. L. (2002). *Slosson oral reading test: SORT-R3* .East Aurora, NY: Slosson Educational Publications.

Sparks, R., Patton, J., & Murdoch, A. (2014). Early reading success and its relationship to reading achievement and reading volume: replication of '10 years later'. *Reading & Writing*, *27*(1), 189-211. doi:10.1007/s11145-013-9439-2

Stahl, S. (1992). Saying the `p' word: nine guidelines for exemplary phonics instruction. *Reading Teacher*, *45*(8), 618.

Toste, J. R., Capin, P., Vaughn, S., Roberts, G. J., & Kearns, D. M. (2017). Multisyllabic word reading instruction with and without motivational beliefs training for struggling readers in the upper elementary grades: a pilot investigation. *Elementary School Journal, 117*(4), 593-615.

Toste, J. R., Williams, K. J., & Capin, P. (2017). Reading big words: instructional practices to promote multisyllabic word reading fluency. *Intervention in School & Clinic*, *52*(5), 270. doi:10.1177/1053451216676797

Vadasy, P. F., Sanders, E. A., & Peyton, J. A. (2006). Paraeducator-supplemented instruction in

structural analysis with text reading practice for second and third graders at risk for

reading rroblems. *Remedial and Special Education,27*(6), 365-378.

doi:10.1177/07419325060270060601

Vygotsky, L. S. (1978). *Mind in society: the development of higher psychological processes*.

Cambridge, MA: Harvard University Press.

Zurybida, P.M. (2007). *Learning Together, but differently: Understanding the impact and

implications of a whole group reading intervention.* Unpublished doctoral dissertation,

University of Washington, Seattle.

APPENDICES

Appendix A Vowel Pattern Chart (Cheyney and Cohen, 1999, p. 308)

Vowel Pattern Chart

Closed	Open	Silent *e*

Bossy *r*	Two Vowels		C + *le*
	Talkers	Whiners	

Appendix B Spot-and-dot Syllabication Strategy (Cheyney and Cohen, 1999, p. 40)

7-36a

SPOT-AND-DOT SYLLABLE STRATEGY

- Spot-and-dot the vowels.
- Connect the dots.
- Look at the number of consonants between the vowels.
- If two, break between the consonants.
- If one, break after the first vowel; if it doesn't sound right, move over one letter.

Appendix C Student chart for affixes (Toste et al., 2017, p. 273)

Appendix D Sample word list used for peel-off reading (Toste et al., 2017, p. 273)

BEAT THE CLOCK

underfed	irrupt
nodded	conducted
swimming	nodded
unfriendly	unfairness
insanity	flavor
implant	catches
inactive	ensure
overwhelming	happily
remembered	hardness
midsized	arrival
pinky	underworked
effortless	written

Appendix E Overt and Covert strategies from *REWARDS* (Archer, Gleason, and Vachon, 1993,

p. 95)

Overt Strategy

1. Circle the word parts (prefixes) at the beginning of the word.

2. Circle the word parts (suffixes) at the end of the word.

3. Underline the letters representing vowel sounds in the rest of the word.

4. Say the parts of the word.

5. Say the parts fast.

6. Make it a real word.

EXAMPLE

reconstruction

Covert Strategy

1. Look for word parts at the beginning and end of the word, and vowel sounds in the rest of the word.

2. Say the parts of the word.

3. Say the parts fast.

4. Make it a real word.

Appendix F Google forms survey distributed to staff

Staff Literacy Survey QUESTIONS RESPONSES 18

Jen Fritz Literacy Survey

Hello Griswold Teachers,

As I mentioned at the recent PD, here is the literacy survey that will help guide my action research project. It is b

complete.

Thank you in advance for your help. Jen Fritz

1. I have been working as a teacher for _____.

1-5 years

6-10 years

11-15 years

16 years or more

*

2. What grade level are you currently teaching? *

 K-1

2-3

4-5

Specialty area

Reading

Special Education

Other

3. I include the following components into my reading lessons: *

Fluency

Phonics/Word work

Comprehension

Vocabulary

Written response

4. Please rank the following in order of importance, with #1 being the most

important to you: fluency, phonics, comprehension, vocabulary, written

response

5. My students would be more proficient readers if they had additional strategies to decode

multisyllabic words.

Yes

No

6. I incorporate several word attack strategies into my lessons for reading longer words.

Always Often Sometimes Rarely Never

I'd like to include it more often

7. I teach the six syllable types and how they apply to decoding multisyllabic

words.

Always Often Sometimes Rarely Never

I'd like to include this instruction more often.

8. I teach the spot and dot strategy to students to decode multisyllabic words. Always

Often Sometimes Rarely Never

I'd like to include this instruction more often.

9. I incorporate the teaching of root words, prefixes, and suffixes to help students read and understand

multisyllabic words.

Always Often Sometimes Rarely Never

I'd like to include this instruction more often.

10. How well prepared do you feel to teach the decoding of multisyllabic words?

Not at all prepared

Insufficiently prepared

Adequately prepared

Well prepared

Extremely well prepared

11. Which of the following would you like to learn more about to utilize in your instruction?

Teaching the six syllable types and using a syllable pattern chart/word house

Using the spot and dot strategy

Word morphology (root words, prefixes, suffixes)

Appendix G Sample 30-minute intervention lesson (Grade 3)

Warm up (5 minutes)

Fluency practice (partner poetry, fluency phrases, prosody practice, reviewing affixes)

Familiar reread

Word Work (10 minutes)

Introduction of new strategy/Review previously taught strategy

Teacher modeling

Guided practice

Independent practice

*Activities for independent practice included: syllable identification, syllable sorting with vowel

pattern chart, spot-and-dot, beat the clock, peel off reading

Connected Text Reading (15 minutes)

Instructional level text with written response if time permitted

*Words utilized during word work component were selected from instructional text to allow for

repeated exposure to promote automaticity and comprehension

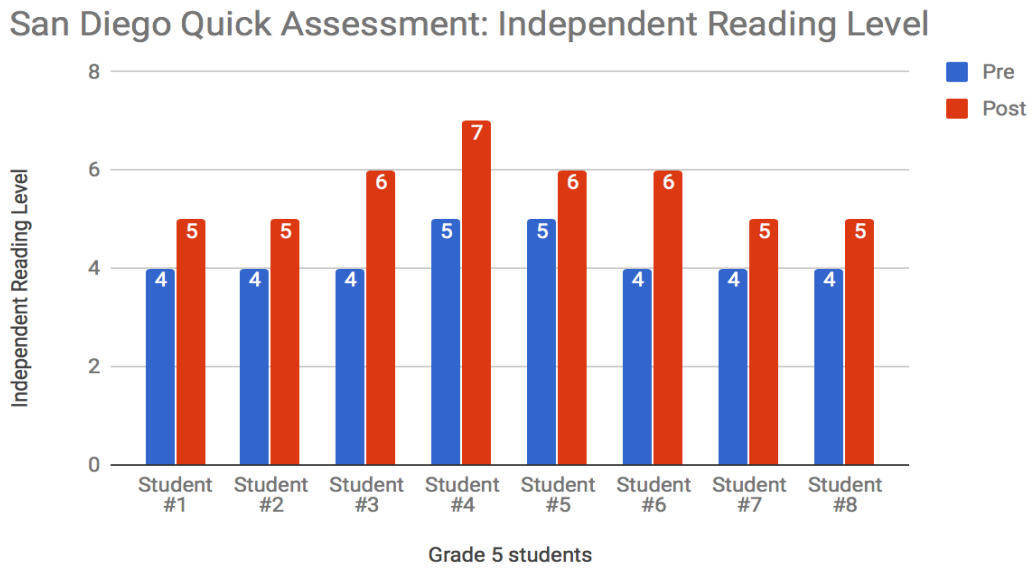Table 1San Diego Quick Assessment (Independent Reading Level)

San Diego Quick Assessment: Independent Reading Level

Table 2 Multisyllabic Word Reading Fluency Test: Word Parts Read Correctly

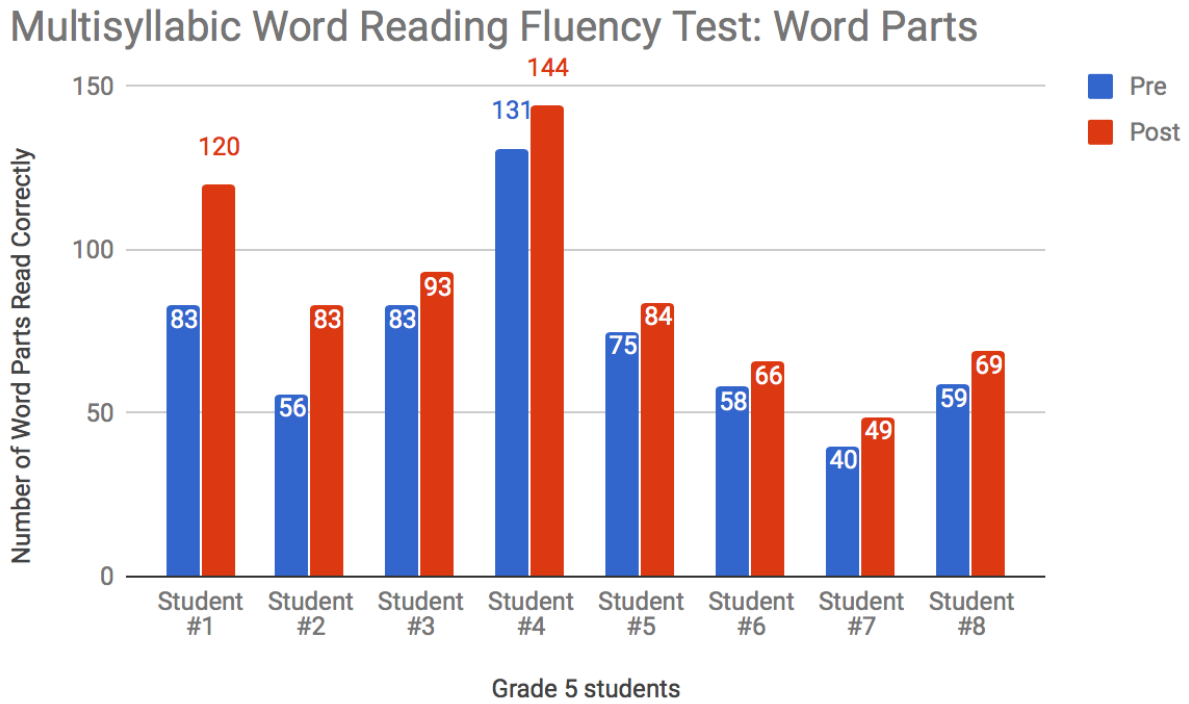Multisyllabic Word Reading Fluency Test: Word Parts

Table 3 Multisyllabic Word Reading Fluency Test: Whole Words Read Correctly

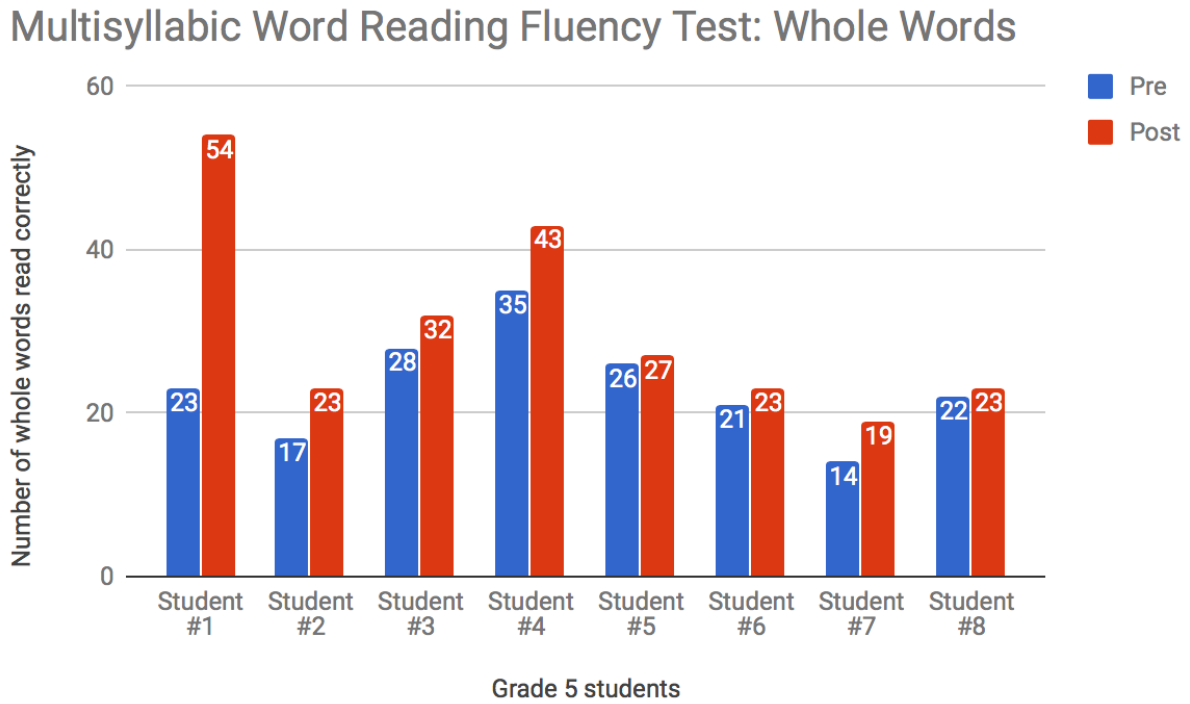Table 4 Fountas and Pinnell Benchmark Reading Levels (Fifth grade group)

Student	Fall F&P level	Winter F&P	Gain
1	P	R	2 levels
2	R	U	3 levels
3	R	T	2 levels
4	R	T	2 levels
5	R	T	2 levels
6	P	T	4 levels
7	R	T	2 levels
8	R	T	2 levels

Table 5 CORE Phonics (Subtest L)

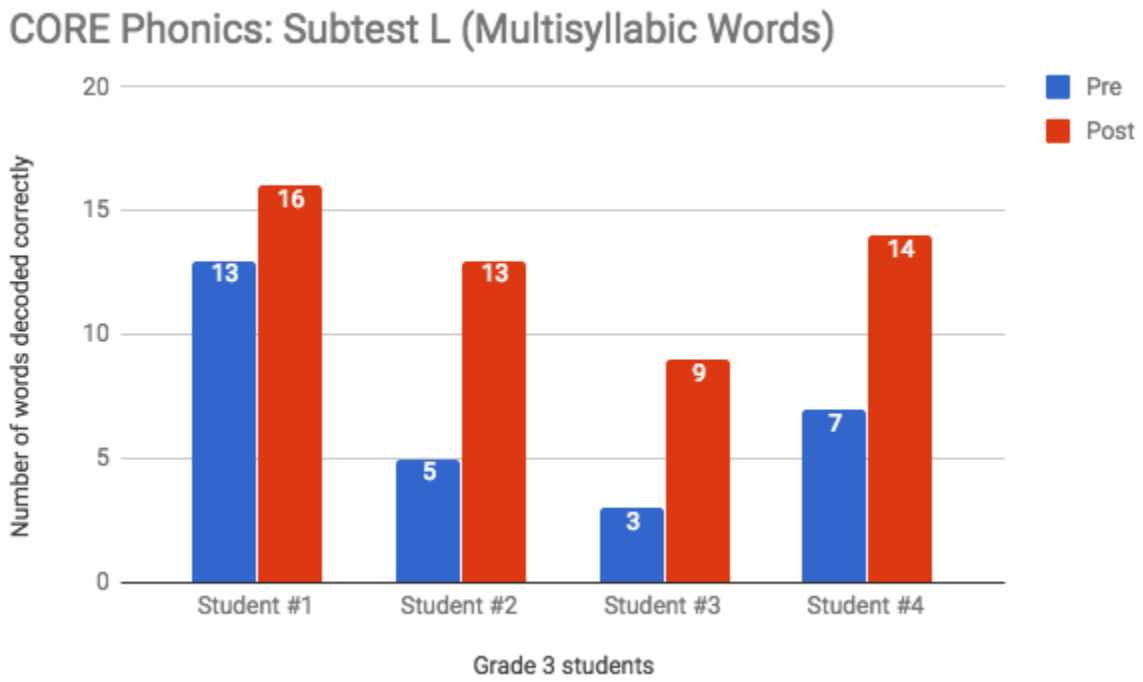CORE Phonics: Subtest L (Multisyllabic Words)

Number of words decoded correctly

Grade 3 students

Table 6 Fountas and Pinnell Benchmark Reading Levels (Third grade group)

Student	Fall F&P level	Winter F&P level	Gain
1	J	N	4 levels
2	J	L	2 levels
3	J	K	1 level
4	L	M	1 level