Differentiated Small Group Word Study Instruction: A Developmental Spelling Approach

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Differentiated Small Group Word Study Instruction:
A Developmental Spelling Approach

By

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Supervised by

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This study examined if differentiated small group word study instruction would impact student achievement more than whole group instruction. I claim that small group instruction following a developmental approach more significantly affects student progress. Students were divided into homogeneous groups based on assessment results. Established weekly routines included a teacher lesson, word sorting, word hunts, and games. This study proves that word study instruction is most effective in small groups focused on developmental spelling progress instead of in a whole group setting. Homogenous small groups provide more individualized attention at each student’s instructional level and result in more positive student attitudes toward word study. Teachers should implement small group word study instruction with appropriate professional development, time, and collaboration opportunities.
Differentiated Small Group Word Study Instruction: A Developmental Spelling Approach

Response to Intervention (RtI) is a practice currently being implemented in school districts across New York State (NYS) as a means to match instruction with specific student needs as documented with data over time (The University of the State of New York, The State Education Department, 2010). The ultimate goal of RtI is “to close the achievement gaps for all students, including students at risk, students with disabilities and English language learners” (NYSED, 2010, p.1) by providing early and appropriate interventions that lead to an amelioration of the learning gap, or identification of a learning disability (2010). While NYS provides some guidelines for establishing an RtI process, each school district must create their own process within the guidelines (2010). These guidelines then foster an inconsistent implementation of RtI from district to district. Nevertheless, every district, and ultimately every teacher in NYS is expected to provide every intervention necessary to help students progress in all areas.

Every year for the past three years, the RtI process has changed in my school district of how to identify and discuss students. Currently, we have had only one meeting during the 2011-2012 school year to discuss student progress and decide on possible changes to instruction and interventions. The main focuses of our RtI process are on reading and math achievement. However, little to no focus is placed on any other subject, most notably word study achievement or instruction, a vital component of literacy. While teachers are constantly assessing reading progress and are held accountable for reporting this progress, they are only accountable for assessing word study at the beginning and ends of the year. Additionally, teachers are expected to teach word study each week using the Fountas and Pinnell word study system (2004), but it is clear through collegial discussions and meetings that teachers do not follow the process precisely, use a different word study program, or inconsistently teach word study. I want to
research word study as there is need for better, more consistent instruction that targets students’ needs and helps student progress. If teachers in my district continue to instruct word study as they are, students can only fall further behind the national and state grade-level standards.

Word study instruction involves not only teaching students about the phonological system, the relationship between spoken and written language (Kucer, 2009), but also about how words can have multiple meanings (Anderson & Nagy, 1996; Anderson & Shifrin, 1980) depending on use and/or cultural context (Harmon & Wilson, 2006). With this increased word knowledge, students can better comprehend texts and develop a deeper understanding of word concepts, rather than just word meanings (Baumann, Kame’enui, & Ash, 2003). Students with deeper, richer word study instruction would hopefully gain a fuller understanding and appreciation of language, which in turn would lead to higher literacy achievement.

Over the past four years of teaching, I have noticed the achievement gap in word study through my data, as well as through observations of students during instruction. I believe there is too much generalizing based on the whole class that occurs when planning word study instruction. I plan to change my instruction in word study from whole group to differentiated small group instruction based on the model set-forth by Bear et. al. (2008). Each week the groups will have different word study concepts to learn and practice based on their developmental spelling stage. This method should provide more accurate, targeted instruction based on student need. Therefore, I want to investigate if differentiated small group word study instruction will impact achievement more than my current instructional practices.

This study sought to discover if small group differentiated word study instruction impacted student achievement more than whole group instruction. Based on the sociocultural theory, it is necessary for teachers to understand and determine that student’s needs in word
study differ based on the student’s literate background, cultural background, and personal experiences. Research proves that student’s orthographic knowledge develops through specific spelling stages. Within one classroom students can span all five spelling stages. Thus, research suggests that teachers should use a developmental word study approach in instruction. This study found that student achievement rose more significantly when students were grouped based on their orthographic knowledge and needs compared to whole group instruction. This rise in student achievement was due to the fact that routines were established and modeled, word sorts were implemented which caused students to take a more active role in analyzing orthographic features, and students liked the various routines of small group word study instruction more than the routines of whole group instruction. This study supports the use of small group differentiated word study instruction in classrooms, while making sure teachers are supported through professional development, time to plan, and collaboration.

**Theoretical Framework**

Literacy cannot be defined in a simple sentence. With the advances in technology and the continuing research of scholars, literacy is now known to be multifaceted. Nevertheless, literacy begins the day you are born; you are immersed into a literate-rich environment in which you acquire understandings and uses for oral and written language in a variety of social contexts (Goodman, 2001). As supported by Gee (2001), everyone in their early childhood has one way to communicate, their Primary discourse. Gee describes Primary discourse as the way one communicates with their intimates and community. He points out that one Primary discourse is shaped by the social group in which a child belongs. But as Gee also argues, literacy requires a further step, the control of a Secondary discourse, or the oral, reading, and written ways of communication of secondary institutions. Gee clarifies secondary institutions as schools,
governments, churches, businesses, and workplaces, among others. Therefore, he claims literacy is the control of a Secondary discourse so that one may be a successful member of society (2001). With the acquisition of one’s Primary and Secondary discourses, a person can then use these discourses in a variety of social and cultural experiences, contexts and purposes.

As supported by the Sociocultural Theory, literacy is much more than the conventional sets of skills taught in schools (or other secondary institutions), but rather it a social process in which a person acquires the understanding, development, and ability to use language, either written or oral, within one’s social and cultural practices and contexts (Rogoff, 2003). As Rogoff (2003) discusses, changing participation by students within culturally meaningful literacy events causes literacy acquisition. Therefore, literacy requires students to have the understanding and skills necessary to use oral and written language in a variety of social contexts (Freebody & Luke, 1990). Authentic literacy events include paying bills, creating shopping lists, comparing products, writing emails, reading scripture in church, singing, looking up telephone numbers, among several more examples (Anderson & Stokes, 1984; Taylor & Dorsey-Gaines, 1988). In essence, the social context determines which discourse a student must use. Therefore, students must master the dominant Discourse (standard English, the Discourse of schools) and when to utilize it, constantly transferring (code-switching) between their Secondary discourse and their Primary discourse when necessary (Gee, 2001; Meier, 2003, Wolfram, 2000). Consequently, teachers are given the task of helping students understand the secondary Discourse of schools, while understanding, acknowledging and assimilating with their Primary discourse. In regards to word study instruction, teachers must teach the orthographic rules of standard English (a student’s secondary Discourse and the Discourse of schools) to help students spell and read more proficiently, while understanding and utilizing a student’s background knowledge and
understandings from their Primary discourse. Often a student confuses new teachings based on preconceived notions from their Primary discourse. Therefore, teachers must instruct with a full understanding of a student’s literacy background.

In terms of word study, a student’s word knowledge is heavily impacted by personal experiences with the word or concept across contexts (Gee, 2004; Pearson, Hiebert, & Kamil, 2007; Pressley, Disney, & Anderson, 2002). As a result, school-age children enter school with varying literary abilities based on the personal and environmental factors and experiences influenced by their culture, social grouping (Goodman, 2001; Heath, 1982; Meier, 2003) and Primary discourse (Gee, 2001); some students can write the alphabet and read a few words, while some students do not know how to hold a book or speak any English. Accordingly, teachers must consider each student’s abilities and nurture and appreciate their diversity when planning word study instruction. Students from different literacy backgrounds will have varying abilities and this should be taken into consideration.

While in a child’s early years of oral language development adults mainly focus on guiding children with the meaning of their language, or the semantic rather than syntactic. As children progress, an adult’s role changes to the mediator, where the adult now guides the child to become independent of adult (proficient language user) support (Brown, 1973). Studied and labeled by Vygotsky (1978), the zone of proximal development (ZPD) is this area where children move from adult-support to independent activities. It is important to note that this movement across the ZPD is affected by positive contexts and adult models. As a result, it is critical that teachers focus on “designing activities that promote learning just beyond the child’s development level, then providing assistance, or scaffolding” (Bruner, 1974, p.105). Thus, the ultimate goal of word study instruction is to understand where the child is in their development and help guide
him or her to independence through carefully selected activities. Differentiated, small-group instruction will serve this goal more efficiently than whole group instruction.

Additionally, when planning word study instruction teachers must keep in mind the recursivity of a child’s acquisition of oral language. As children encounter new rules about language, it may seem that they digress in their learning by focusing on this new rule and reverting to old habits, and thus the appearance of no progress (Goodman, 2001). However, Kucer’s (2009) research shows that this is in fact a child’s way of reorganizing their knowledge structures. Children either have to assimilate (add) this new knowledge into their previous knowledge, or reconfigure their knowledge to accommodate it (Goodman, 2001; Kucer, 2009). As a child’s knowledge of language continues to grow, there is increasing activity of constructing knowledge and then reorganizing it (recursivity). Therefore, teachers should take recursivity into account when planning word study instruction.

**Research Question**

No matter a student’s literate background, it is necessary for teachers to determine student’s needs and use this knowledge to guide their instruction. Additionally, teachers need to account for cultural differences and the variety of diverse perspectives children bring to the classroom either about literacy, or their personal experiences. Given that literacy is based on personal experiences as well as social context, this action research project asks, “will differentiated small group word study instruction impact student achievement more than whole group instruction?”

**Literature Review**

The following literature review explores the research examining developmental spelling stages and their effect on classroom word study instruction. In the first section there will be an
exploration of the research supporting the stages of developmental spelling. Secondly, an examination of the current word study and spelling practices in American classrooms are examined. Next, an explanation of the most effective classroom word study instruction based on developmental spelling research is presented. Finally, an explanation of the synchrony of word study, reading, and writing and its classroom implications are discussed. The research indicates that current word study instruction is not consistent with developmental spelling research; there is a significant gap between research and practice.

**Developmental Spelling**

It is clear from the past few decades of research on spelling and word study instruction that spelling, or orthography, involves much more than mere memorization (Beers & Beers, 1977). Rather, spelling progress is a child’s developmental exploration of how the alphabet, sounds, pattern, and meaning are related, integrated and represented in the English language (Templeton, 2003). Acquisition of spelling knowledge is a developmental process through which most children progress, no matter their age or learning difficulty, even though they may progress at varying rates (Henderson, 1990; Templeton & Bear, 1992; Invernizzi & Hayes, 2004). This process has been identified and categorized into specific stages. While the stage names have fluctuated throughout the years, researchers agree that the following five stages accurately summarize the decades of research: emergent, letter-name alphabetic, within word pattern, syllables and affixes, and derivational relation (Bear, Invernizzi, Templeton, & Johnston, 2011).

The emergence of developmental spelling research began in the 1970s with the initial study of pre-school children by Read (1971). Read studied and analyzed pre-school children’s writing for the spelling attempts as evidence of the child’s phonological knowledge. Phonology, as referred to by Read (1971), is “the sound system of our language, a system of regular
processes that determine the pronunciation of English” (p. 1). Based on Read’s study of children’s spellings, it became clear that children enter school with some phonological knowledge. Read concluded that children’s invented spellings are not random occurrences but should be understood as an expression of a child’s understanding of English sounds (their phonological knowledge). These spellings showed how children categorize and analyze vowel and consonant sounds as they decide how they should be represented in spelling (Read, 1971). Beers and Henderson (1977) were consistent with Read (1971) in that children are aware that there is a governing system around English language and that they show their understanding through their invented spellings in their writing. Through their continued use of invented spelling, children experiment with inferences and solidify their understandings of the English language system (Read, 1971; Beers & Henderson, 1977). Conversely, if children are not permitted to use invented spelling, they cannot experiment and analyze language, and therefore arrive to school with less understanding of phonology (Read, 1971). Adults often do not understand these spellings because they understand the systematic process of English phonology, but they should encourage and accept children’s invented spellings (Read, 1971). With his study, Read (1971) proved that adults need to look more closely at children’s spelling attempts as they provide a window into a child’s unconscious awareness of the English spelling system, in turn paving the way for further research in developmental spelling.

The work of Read (1971) and Beers and Henderson (1977) established the basis that spelling attempts are first based on speech sound understandings, but are constantly refined as new language knowledge is acquired. Both believed in a progression of spelling development, but were limited by the age of their participants to fully examine this hypothesis. Using this understanding of spelling development, Henderson and Templeton (1986) examined the
systematic layering of English orthography. Their work is fundamental to understanding developmental spelling and the creation of a systematic word study curriculum. Henderson and Templeton confirm that English spelling consists of three layers that build on each other in complexity: alphabet, pattern and meaning. As children mature and their language knowledge grows, they consistently interact within the three layers of orthography (Henderson & Templeton, 1986).

The first layer of English orthography is the alphabetic layer (Henderson & Templeton, 1986). English spelling is alphabetic because there is a relationship between letters and sounds. Sounds of a word can be used to match single letters, or pairs of letters. Then, these letters are ordered from left to right as they are spoken. Henderson and Templeton credit the effects of borrowing from foreign language, a move away from Old English, and the printing press as reasons modern English is not as consistent with this primary level of orthography. This level is the one in which most beginning readers and writers work as they rely on alphabetic cues. However, because of the alphabetic inconsistencies, children must learn that they cannot always spell words the way they sound, and therefore must begin to understand and use the principles of the next two orthographic layers to read and write (Henderson & Templeton, 1986).

The second layer atop the alphabetic layer is the pattern layer (Henderson & Templeton, 1986). Aside from using letter-sound matches to spell, children must understand the patterns that govern various groups of letters. For example, the digraph gh can sound different depending on the word (the context). Therefore, children must examine, understand and learn various patterns within each context. Luckily, many of the patterns are predictable (Templeton, 2011). As Templeton (2011) concludes from synthesis of linguist research, English orthography is much more regular than previously believed. Consequently, children must learn and retain these
patterns to progress. Once learned, children can then use their pattern word knowledge from spelling to help them in reading and writing (Bear et al., 2011). The connection between orthographic knowledge, reading and writing will be further examined in the last section of this literature review.

The third and final layer of English orthography is the meaning layer (Henderson & Templeton, 1986). This layer involves understanding that specific groups of letters hold meaning, such as prefixes, suffixes and roots. Additionally, children will understand that more complex and unusually spelled words represent specific meanings. By exploring and analyzing visually similar words, children will understand the relationship between visual and meaning similarity. For instance, the relationship between bomb and bombard relies on an understanding of the root word and thus, the visual similarity leads to meaning similarity. A foundation of spelling-meaning relationships helps to move students through the layers of English orthography, the developmental process, and the grade levels (Henderson & Templeton, 1986).

As a child matures, their orthographic knowledge progresses from understanding letter-sound correspondence, = to more abstract letter patterns, to determining relationships between letters and meaning (Bear et al., 2011). The progression through the layers of English orthography (Henderson & Templeton, 1986) is the foundation that developmental spelling researchers used to understand that spelling errors follow this same continuum: “by looking at individual spelling errors across an array of words organized by structures governing alphabet, pattern, and meaning, researchers have described an invariant order in which students acquire the features of English orthography” (Invernizzi & Hayes, 2004, pp. 220-221). Researchers have defined these spelling errors into a stage model that progresses through the grades and follows the alphabet, pattern, and meaning layering of the English language (Beers, Beers, & Grant,
1977; Beers & Henderson, 1977; Gentry, 1981, 1982, 1984; Henderson, 1990; Templeton & Bear, 1992). As children progress through the developmental stages, they gain knowledge through each layer and use them simultaneously to spell words (Bear et al., 2011). The following discussion involves in-depth descriptions of each stage based on the stages presented by Bear et al. (2011) as they are widely recognized by professionals as encompassing the features of previous research (Beers et al., 1977; Beers Henderson &., 1977; Gentry, 1981, 1982, 1984; Henderson, 1990; Templeton & Bear, 1992; Young, 2007). Bear et al. (2011) describes each stage by what a child does correctly (independent level), what they use but confuse (instructional level), and what they do not use (frustration level).

The first developmental spelling stage is the emergent spelling stage. This stage includes spellers who do not read and most likely have not received any formal reading instruction. Most emergent spellers are between two and five years old, with some ranging into the first grade. In this stage, spelling ranges from prephonetic to pretend writing. Prephonetic describes when a child creates a drawing, whether decipherable or not, that has no relation to sounds or words. As children progress through this stage, they experiment with script. The script often shows no relationship between sounds and letters, nor is it linear. Children progress into the next stage when they learn the alphabetic principle that there is a systematic way to show that letters match sounds. Children then start to experiment with and pay attention to sounds and letters.

The second stage in the process is the letter name-alphabetic stage. In this stage, children are in school and formally taught reading and writing. Normally this stage ranges from kindergarten into the second grade (ages five to eight years). Growth is rapid as children are exposed to more formal instruction. As a result, this stage is broken into three segments: early, middle and late letter name-alphabetic. Early in the stage, spellers use the names of letters to
represent sounds, primarily consonants, and do not usually put spaces in between words. Therefore, it is hard to decipher early speller’s words, but it is clear that some of the writing represents sounds (semiphonetic). As children master beginning and ending consonants, they then start to experiment with vowels, placing them in the middle letter name-alphabetic stage. Children also learn to use blends and digraphs to represent sounds, thus making their spelling phonetic. Finally, children move into the end of this stage in which they regularly spell with short vowels, blends and digraphs. These children are characterized as having full phonemic awareness. Consequently, children are moving from the alphabetic layer of English orthography into the pattern layer.

Within word pattern spelling is the third stage of the developmental spelling process. Typically, this stage begins as children become independent readers and lasts into the fourth grade (seven to ten years old). This stage lasts longer than the other stages because students must examine, understand, and learn the various vowel patterns of the English language within single syllable words. Such patterns include long vowel (long o in oa, ow and consonant – o – e), less common vowel (VCC), and ambiguous vowel (ou) patterns. Children in this stage interact within the alphabetic and pattern layers of English orthography. Towards the end of this stage, students must learn to use the meaning layer of orthography as they are introduced to homophones.

The fourth stage of spelling is the syllables and affixes stage, typically seen in upper elementary and middle school children (ages 9 to 14 years). Children must now spell multi-syllabic words using their previous orthographic knowledge. Children in the fourth stage are exposed to and must now consider inflectional endings, syllable juncture, open and closed syllables, unaccented final syllables, and affixes (prefixes and suffixes) when spelling. The end of this stage occurs when a child needs to consider the meaning of spelling patterns and their
affect on words.

The final stage in the developmental spelling model is the derivational relations spelling stage. Most derivational spellers are in middle school, high school, or college, although the learning within this stage continues throughout adulthood. Spellers in this stage learn how base words and word roots help to derive spelling. Spellers also expand their knowledge of words with Greek and Latin origin, as well as how words that are related in meaning are often spelled similarly. A speller’s vocabulary constantly widens as they continuously explore and learn about words.

While countless researchers have studied and proven the validity of this model, Young (2007) challenged the developmental spelling stages as to whether they accurately and consistently captured the diversity of spellers in one classroom. Young examined children’s spelling through various spelling tasks: revising, spelling in isolation, and writing in context. Through careful analysis of each child’s spelling, Young found only 6-35 inconsistencies across 817 -1,156 words; children spelled consistently within their identified spelling stage. Therefore, the study concluded that even today, the developmental stage theory is flexible, accurate, and meaningful in identifying children’s spelling knowledge, and that each stage encompasses diverse learners (Young, 2007).

These five stages encompass learners from young to old. Learning to spell does not happen quickly (Henderson & Templeton, 1986), but takes years to master (Templeton, 2011). While students may acquire orthographic knowledge at different rates, they all follow the same trajectory and do not fluctuate between stages (Gentry, 1982).

Developmental spelling research provides a need for assessment that determines a child’s
orthographic knowledge. Such assessment would provide important information to inform classroom instruction (Henderson & Templeton, 1986). By assessing a student’s spelling and then analyzing it, teachers would find explicit information about a student’s word knowledge (Templeton, 2011). Fortunately, there are currently several qualitative spelling inventories that assess a child’s orthographic knowledge (Invernizzi & Hayes, 2004). A spelling inventory “consist[s] of lists of words specially chosen to represent a variety of spelling features at increasing levels of difficulty” (Bear et al., 2011, p. 27). An inventory is administered like a spelling test, and then scored and analyzed for orthographic features (Bear et al., 2011).

Ganske (1999) developed the Developmental Spelling Analysis (DSA), in which a teacher can see the progression of a child’s knowledge of spelling features. The DSA was found to be extremely reliable at accurately identifying a child’s developmental stage of spelling. In addition, the DSA was reliable at identifying the features a child knows, is using but confusing, and what they still need to know. Teachers responded to the DSA positively by indicating it provided insight into a child’s word knowledge better than previous assessments (Ganske, 1999).

Bear et al. (2011) also developed a reliable spelling inventory, but there are multiple inventories to be used across the grade levels: the Elementary Spelling Inventory (ESI), the Primary Spelling Inventory (PSI), and the Upper-Level Spelling Inventory (USI). After administration of a spelling inventory, the feature guide should be filled out and analyzed to determine each child’s developmental level (Bear et al., 2011). Both Bear et al. (2011) and Ganske (1999) concur that assessing a child’s orthographic knowledge several times throughout the school year will provide developmental information that can track progress, as well as inform instruction.
Aside from assessment as a means of identifying developmental stages and instructional decisions, teachers need to be aware of the strategies children use when attempting to spell words (Dahl et al., 2003; Young, 2008). Dahl et al. (2003) and Young (2008) both examined children’s spelling through the lens of the child by conducting individual conferences with the child. Conferences for Dahl et al. (2003) required children “to circle words they really had to think about” (p. 311) while writing. Then, children were prompted with questions to discuss the strategies they used to spell each word. Finally, the teacher chose certain words in the child’s writing and they were asked to repeat the same strategy explanations. Conferences for Young (2008) required children to participate in four activities: an open word sort, a closed word sort, a written sort, and editing. Children were asked to think aloud as they sorted and edited the words. All of the words ranged across developmental spelling stages despite the child’s previously determined level of orthographic knowledge. Both studies concluded that children across developmental spelling levels use a variety of unpredictable strategies, as strategy use did not specifically coincide with specific stages (Dahl et al., 2003, Young 2008).

Dahl et al. (2003) identified five strategies children use when spelling: visualizing, making connections, focusing on sounds, reflecting, and combining information (multiple strategies). While strategy use was evident across stages, Dahl et al. (2003) concluded that as developmental stage increased, so did the use of multiple strategies. Furthermore, as the stages progress, there is an increase in the use of visualizing and reflecting, and a decrease in making connections and focusing on sounds (Dahl et al., 2003). This difference of strategy use can most likely be attributed to the varying word knowledge of children across stages. On the other hand, Young (2008) argues that student individuality plays into spelling strategy use more than a child’s developmental stage. Nevertheless, both studies determined that children across all stages
used a variety of strategies that did not specifically coincide with their developmental spelling stage. Additionally, as children acquire more word knowledge and progress developmentally, they can more thoroughly explain their thinking and use combined strategies when spelling (Dahl et al., 2003; Young, 2008). These spelling strategies provide a window into a child’s cognitive processes (Young, 2008). Therefore, teachers need to be aware of a child’s spelling strategy use as it can help guide instruction.

**Current Word Study and Spelling Practices**

Recently in American schools there has been a push for literacy instruction and an accompanying increase in attention towards spelling (Fresch, 2003). However, professionals cannot agree on how best to instruct spelling (Bloodgood & Pacifici, 2004; Fresch, 2003; Johnston, 2001). The three perspectives on formal spelling instruction are rote visual memory, generalization, and developmental (Johnston, 2001). Rote visual memory involves spelling as strictly memorization. Instruction in generalizations requires children to recognize, study and learn how words share sounds and patterns; children learn “the common features and rules of spelling” (Johnston, 2001, p. 144). Finally, the developmental approach to spelling instruction requires teachers to examine children’s spelling errors and place them on the continuum of developmental orthographic knowledge. This placement (or identification of spelling stage) results in child placement into curriculum at an appropriate developmental level (Henderson, 1990; Johnston, 2001). As a result of these differing perspectives, professional materials for classroom instruction differ greatly, with many relying heavily on memorization (Fresch, 2003; Johnston, 2001). Consequently, schools and teachers are left with a plethora of different practices. In addition to inconsistent instruction, “ongoing pressure of curricular and testing demands [that] leaves little room for spelling instruction” (Bloodgood & Pacifici, 2004, p. 250).
Not only is there little time for spelling instruction, but there often is not consistent implementation through the upper grade levels (Bloodgood & Pacifici, 2004).

Bloodgood and Pacifici (2004), Fresch (2003), Graham et al. (2008), and Johnston (2001) each sought to research the current spelling instructional practices in classrooms today. While there is significant research supporting developmental spelling stages and instruction, these studies sought to see if practice matched this current theory and research. Johnston (2001) paved the way with an investigation of 42 teachers across 12 schools. The investigation involved preservice teachers interviewing in-service teachers with open-ended questions. Bloodgood and Pacifici (2004) followed suit of Johnston (2001), but the study was not as large or comprehensive. The 35 participants, including in-service and preservice teachers, completed surveys, interviews, projects, and reflections. Fresch (2003) and Graham et al. (2008) both conducted national surveys of teachers spanning all genders, grades, demographics, and locations. Fresch (2003) mailed surveys including open-ended and scaled questions to 2,200 first through fifth grade teachers across the United States with 355 teachers responding (16%). Graham et al. (2008) mailed a questionnaire to 248 primary teachers across the United States with 169 responding (68%). In all four studies, teachers expressed an understanding, appreciation, and belief in the benefits of word study and developmental spelling, however their instructional practices did not match these beliefs (Bloodgood and Pacifici, 2004; Fresch, 2003; Graham et al., 2008; Johnston, 2001).

Research also consistently depicted that teachers spend time each week on spelling instruction (Fresch, 2003; Graham et al., 2008; Johnston, 2001). Graham et al. (2008) concluded that 90% of primary teachers in the study spent more than 25 minutes per week on spelling instruction. However, 45% of teachers indicated they spent less than 60 minutes on spelling per
week. Nevertheless, nearly all teachers believed in the importance of spelling instruction as it affects other parts of school curriculum (Fresch, 2003).

The study by Graham et al. (2008) concluded that primary spelling instruction is multifaceted, with the responding teachers indicating they apply multiple activities and instructional methods weekly, including but not limited to spelling rules, phonics, phonological awareness, new lists each week, lessons on spelling strategies for solving unknown words, mini-lessons, games, and other learning activities. On the contrary, Fresch (2003) and Johnston (2001) were consistent in that teachers use the traditional method of weekly spelling lists and tests and that “a high percentage of teachers still rely on basal spellers” (Fresch, 2003, p. 835). It is clear from the surveys that teachers believe the instructional practices are often the result of the school district’s decisions, not the teachers (Johnston, 2001). Additionally, teachers voiced a frustration of the inconsistency of spelling instruction across grade levels, as some students arrive to the next grade lacking orthographic knowledge due to this inconsistency of instruction (Fresch, 2003).

The teachers surveyed indicated a general excitement about word study instruction (Bloodgood & Pacifici, 2004). Teachers believed students would benefit from instruction that was hands-on, engaging, and that explained how words work (Bloodgood & Pacifici, 2004). However, two out of three teachers reported they use the instructional methods of memorization and generalization, while only 50% of teachers reportedly use activities such as word sorts that are associated with the developmental approach of spelling instruction (Graham et al., 2008). Consistent with this analysis is that teachers seem to be aware of instructional models other than memorization and generalization, yet developmental spelling is rarely used in instruction (Fresch, 2003; Johnston, 2001).
Repeatedly research proves that teacher’s beliefs are not consistent with practice. For instance, 72% of teachers surveyed believed that one spelling list for every child was not appropriate, yet they continued to use one regardless (Fresch, 2003). When choosing words, 48% of teachers believe it is important for students to self-select their weekly words, yet only 17% of teachers actually allow students to participate in choice (Fresch, 2003). Furthermore, while 70% of teachers surveyed believe in ability grouping, only 26% of teachers group students by ability (Fresch, 2003). The disconnect between research, beliefs, and practice needs to be fused in order to better serve children.

Whether teachers instruct with a developmental spelling perspective or not, in terms of differentiation, teachers often adapt their instruction for weaker spellers (Graham et al., 2008; Johnston, 2001). While Graham et al. (2008) found that 42% of teachers surveyed provide few or no adaptations for weaker spellers, Johnston (2001) found that 95% of teachers modified instruction in some way. Those teachers that differentiate do so by having weaker spellers study fewer words, assigning easier words, holding more conferences with weaker spellers and their parents, and reteaching spelling skills more often (Graham et al., 2008; Johnston, 2001). On the other hand, only 14% of teachers surveyed differentiated for advanced spellers (Johnston, 2001). The modifications mentioned were the use of bonus or extra credit words (Johnston, 2001).

Additionally, teachers expressed a concern about the time constraints surrounding word study preparation (Bloodgood & Pacifici, 2004; Ganske, 1999). While teachers wanted to implement a word study curriculum that was more developmentally grounded, they felt their professional knowledge was not sufficient for such a program (Bloodgood & Pacifici, 2004; Carpenter et al., 2009; Graham et al., 2008). Teachers are not comfortable with teaching a program or modifying their instruction when they feel their own spelling knowledge is
insufficient (Graham et al., 2008). Teachers also responded that parents might have concerns with word study instruction instead of traditional spelling instruction and homework (Bloodgood & Pacifici, 2004). Overall, teacher concerns coupled with district expectations are hindering the use of developmental spelling approaches in the classroom.

Whole group instruction describes the majority of classroom practices (Fresch, 2003; Johnston, 2001). This mostly involves the whole class following the same pace of instruction throughout the year (Invernizzi & Hayes, 2004). However, research proves that whole group word study instruction does not meet the needs of all students (Morris, Blanton, Blanton, & Perney, 1995; Williams & Hufnagel, 2005). Word study for the whole group is planned based on grade level expectations, hence making it most beneficial for students with average literacy abilities (Morris et al., 1995; Williams & Hufnagel, 2005). However, this method of instruction is too difficult for low achievers because it is not well matched to their developmental level (Morris et al., 1995; Williams & Hufnagel, 2005). These low spellers rarely transfer word study knowledge to their writing in this type of setting (Williams & Hufnagel, 2005). On the other end of the spectrum, the high achievers were not challenged because they already knew the concepts before they were taught (Williams & Hufnagel, 2005). These studies support the notion that the use of one spelling list will be developmentally appropriate for students working at age and grade level expectations, but not for all learners (Carpenter et al., 2009; Johnston, 2001; Williams & Hufnagel, 2005).

In an analysis of a third grade classroom, Ness (2010) discovered that 17 children ranged across all developmental stages except for emergent spelling. This research corroborates with Schlagal’s (1982) work which studied classrooms grade one through six and found a range of at least three grade levels in every classroom. The question then remains: how can one teacher
create instruction that meets the needs of all students? It is clear that there is a multitude of classroom instructional practices currently being used for word study and spelling instruction. However, despite the significant amount of developmental spelling research, “little has been done to bridge the gap between current theoretical understands and the actual practices of classroom teachers” (Ganske, 1999, p. 43). While small-group instruction is not a new teaching method, it is not readily embraced in elementary schools (Johnston, 2001). Teachers need to refocus their instruction on meeting the diverse needs of their children. To do so, they need to use differentiated, small-group instruction focusing on the developmental spelling needs of each child.

**Effective Developmental Word Study Instruction**

Word study instruction is the result of decade’s worth of research on developmental spelling (Read, 1971; Beers & Henderson, 1977; Bear & Templeton, 1992; Fountas & Pinnell, 1998; Bear, et al., 2011). Henderson and Templeton (1986) provided evidence that although it is complex, learning to spell is systematic due to the layering of English orthography and that instruction should follow suit. Children must explore new levels of thinking by examining words based on what they know because “learning to spell is an active process,” (Henderson & Templeton, 1986, p. 314). Therefore, Dahl et. al. (2003) defines developmental word study as “an active learning approach to studying the basic principles of spelling” (p. 310).

Assessment is the driving force behind developmental word study instruction. Both Bear et al. (2011) and Ganske (1999) support the use of spelling inventories so that teachers will gain insight into “what understandings their students have about words” (Ganske, 1999, p. 43). The assessment highlights the diverse orthographic knowledge of each child, as well as the classroom
(Ness, 2010). Therefore, assessment provides teachers with “an instructional blueprint” (Ganske, 1999, p. 67) with which to guide instruction.

Students should be placed in differentiated small groups based on their instructional level (Bear et al., 2011; Bear & Templeton, 1998; Young, 2007). As all children in one classroom will not be at the same developmental spelling level, small groups provide spelling instruction that best fits the needs of every child. Williams and Hufnagel (2005) recommend starting small group developmental instruction as early as kindergarten in order to meet every child’s needs. The small groups should be flexible as the needs of each child changes (Invernizzi & Hayes, 2004). In order to assist in flexible grouping, both Bear et al. (2011) and Ganske (1999) support the use of spelling inventories several times throughout the school year to assess a child’s developmental progress.

To provide appropriate small group developmental word study instruction, teachers must establish clear routines (Bear et al., 2011). There should be time each day dedicated to word study, with the introductory lesson lasting longer than subsequent activities throughout the week. Word study implementation can occur in several ways: as part of reading groups, circle-seat-center rotations, during a word study block, or in intervention settings (Bear et al., 2011). By providing word study instruction in reading groups, children must apply their orthographic knowledge to reading (Henderson & Templeton, 1986). In this way, word study instruction occurs within the first part of reading group and then connections can be made throughout group time (Carpenter et al., 2009; Henderson & Templeton, 1986). On the contrary, Williams and Phillips-Birdsong (2006) concluded from their study of second graders that word study instruction through reading groups does not meet all of the students needs. Other teachers find that the separate word study time works best for instruction even though groups may be larger
(Carpenter et al., 2009). While Williams and Phillips-Birdsong (2008) supported the use of developmental small groups, the study found that the management of groups, lack of sufficient time for instruction, and lack of sufficient time to plan for more groups caused problems. Word study instruction within interventions groups has also been supported through research (Invernizzi & Hayes, 2004; Kirk & Gillon, 2009; Williams & Lundstrom, 2007). Regardless of the instructional organization, routines need to be consistently implemented to help students examine new words and expand their orthographic knowledge.

Each day should have a specific routine that is explicitly taught and modeled (Bear et al., 2011; Invernizzi & Hayes, 2004). Bear et al. (2011) provides a sample weekly instructional plan in which words are introduced on Monday, children practice sorting the words again on Tuesday with initial speed sorts and writing sorts, followed by blind sorts and writing sorts on Wednesday, then a second speed sort and word hunts on Thursday, and finally the assessment and games on Friday. Carpenter et al. (2009) followed a similar routine in that new word sorts were introduced on Monday, word hunts occurred on Tuesday, then the rest of the week consisted of extension activities to reading and writing. No matter the routine, teachers need to be aware of the characteristics for each developmental spelling stage and use this knowledge to plan instructional activities accordingly (Carpenter et al., 2009). Matching activities with developmental knowledge will help children progress through stages (Young, 2008).

Word sorting is extremely important in the design of word study instruction (Carpenter et al., 2009). Sorting words requires children to understand, manipulate, synthesize, and discuss words in-depth in a teacher-directed, constructivist model (Bear et al., 2011). With word sorting, students must scrutinize words and compare and contrast the orthographic features to create generalizations about spelling (Bear et al., 2011; Invernizzi & Hayes, 2004). The three types of
word sorts reflect the three layers of orthography: sound sorts, pattern sorts, and meaning sorts (Bear et al., 2011). Each week children work on a new set of words, which are based on the features of their instructional developmental stage as found by assessments (Bear et al., 2011; Carpenter et al., 2009). The words are introduced using a word sort, whether teacher-directed or student-centered (Bear et al., 2011). Teacher-directed sorts require explicit instruction and a high level of support, whereas student-centered sorts require more cognitive demand and independence (Bear et al., 2011). An extension of traditional word sorts are eSorts, or digital word sorts (Zucker & Invernizzi, 2008). Zucker and Invernizzi (2008) found that eSorts were a rich extension to differentiated small group instruction. When children created their own digital stories and used the stories as the basis for word sorts, they were engaged in applying their orthographic knowledge. Furthermore, children were more engaged and motivated to use the computer during word study (Zucker & Invernizzi, 2008). Nevertheless, no matter the type, word sorts are based on developmental spelling research and help to integrate reading and spelling.

A teacher’s thoughtful and knowledgeable instructional decisions, as well as guidance are crucial to the success of word study instruction; “experts widely agree that the single most important factor in student achievement is the teacher” (Carpenter et al., 2009, p. 8). A teacher guides children towards understanding of new orthographic knowledge through various activities (Bear & Templeton, 1998). Additionally, some students may need explicit instruction for transference of word study concepts to their independent writing (Williams & Phillips-Birdsong, 2006). Strong adult guidance is critical for children’s success in word study instruction.

In order for a word study program that centers on child needs in differentiated small groups to work, teachers need to be provided with opportunities to expand their own orthographic knowledge (Bloodgood & Pacifici, 2004; Carpenter et al., 2009; Ganske, 1999).
Teachers require support not just through curriculum materials, but school administrations need to provide professional development, time to plan, and continual support and assistance (Carpenter et al., 2009; Fresch, 2003; Johnston, 2001; Williams & Phillips-Birdsong, 2006). The ability to work in teams with colleagues to analyze assessment results and develop a systematic word study curriculum would also be beneficial (Bloodgood & Pacifici, 2004). With greater support, teachers would understand how to put their beliefs about spelling into practice and provide a more integrated approach to literacy and instruction (Fresch, 2003; Johnston, 2001). Once provided the professional development, teachers could use developmental assessments to plan for instruction even within a commercially published spelling program (Johnston, 2001). However, research shows that one year is not sufficient time for teachers to fully implement and understand a developmental word study program (Carpenter et al., 2009). As proven by Carpenter et al. (2009), with the correct professional development, supports, time, and teacher collaboration, a developmental word study curriculum can lead to significant gains.

**Synchrony of Word Study**

There is a strong correlation between a child’s reading and spelling levels (Carpenter et al., 2009). Orthographic knowledge is believed by cognitive psychologists to be at the core of the reading process (Templeton, 2003). Children use their orthographic knowledge to excel in other areas of literacy such as reading and writing (Bear & Templeton, 1998). Children learn words throughout their lives and in all contexts. Therefore, children need to read a wide variety of texts in order to be exposed to new spellings and vocabulary. The more a child reads, the more exposure they will have to spelling and vocabulary, and in this way, more opportunity to connect patterns and meaning to expand their orthographic knowledge (Bear & Templeton, 1998; Beers
et al., 1977). In addition, adults need to point out orthographic features and help students explore patterns and features (Bear & Templeton, 1998).

Bear et al. (2011) suggests that after a teacher analyzes each child’s orthographic knowledge using a spelling inventory, they should compare this data with a child’s reading and writing data. All three pieces of data, the reading, writing, and spelling, should agree and support the word features on which instruction should focus to better meet the child where they need to be (Bear et al., 2011). However, sometimes the data shows that a child is “out of synchrony in their development” (Bear et al., 2011, p. 36) when reading and spelling development does not match. In this case, teachers need to provide explicit instruction for the child in their stage of spelling development (Bear et al., 2011).

Assessment and analysis of student’s spelling does not only provide evidence of word knowledge as it relates to spelling, but this information can also be applied to reading and writing instruction (Templeton, 2011). First and foremost, teachers need to create a language rich environment in which reading, writing and spelling occur frequently and are integrated (Gentry, 1981). Within this environment should be opportunities for social interaction during writing (Williams & Phillips-Birdsong, 2006). Social interaction allows for children to engage each other in conversations about word study concepts and spelling strategies, therefore reinforcing instruction (Williams & Phillips-Birdsong, 2006). In the perfect reality, the words children study would come from their reading and they would use their knowledge from word study instruction in their writing (Henderson & Templeton, 1986).

Writing provides children with the opportunity to express their orthographic knowledge through the spelling of words (Ganske, 1999). Beckham-Hunger and Williams (2003) focused word study instruction on words spelled incorrectly in journal writing. After word study
instruction, while few children used the words again in their journals, when they did use them, the words were spelled correctly (Beckham-Hungler & Williams, 2003). Children need to be provided with frequent opportunities to write (Gentry, 1981, 1982). With more writing comes more practice of orthographic features and more opportunities for teachers to focus on helping individuals (Gentry, 1982). Interactive writing has been proven to provide children with an opportunity to practice spelling words and spelling strategies (Williams & Lundstrom, 2007).

Used as a supplement to word study, interactive writing provides a context for children to have repeated practice of spelling words instead of constantly practicing the words in isolation. Furthermore, the teacher prompts during interactive writing provided a scaffold through which the children learned the spelling words and strategies (Williams & Lundstrom, 2007).

As previously discussed, children across developmental stages use a variety of strategies to spell unknown words varying strategies (Dahl et al., 2003; Young, 2008). These spelling strategies provide a window into a child’s cognitive processes (Young, 2008). Therefore, teachers need to identify the strategies each child uses when spelling (Beers et al., 1977; Dahl et al., 2003; Williams & Phillips-Birdsong, 2006). One such strategy is the use of individual and group conferences (Dahl et al., 2003; Williams & Phillips-Birdsong, 2006). Information gathered and analyzed from conferences should be then used to guide explicit strategy use instruction during small group word study lessons or through individual meetings (Henderson & Templeton, 1986; Williams & Phillips-Birdsong, 2006). This instruction will hopefully lead to a transference of word study concepts to writing.

In conclusion, classroom instructional practices need to match the developmental spelling research in order to best meet the needs of all children. Through small groups, instruction can focus on appropriate developmental features for the children rather than the one list for all
children model of teaching spelling. However, teachers must be provided with adequate professional development, time and support to implement this highly beneficial instructional method. Furthermore, teachers must provide integrated literacy instruction that facilitates the use of spelling instruction in reading and writing. Only then will a child’s orthographic knowledge be able to blossom.

**Method**

**Context**

Research for this study will occur in a fourth grade classroom of 20 students. The classroom is part of an elementary school including grades three through five in Dillon, New York. There are a total of seven third grade classrooms, nine fourth grade classrooms, and eight fifth grade classrooms in the school. Of the 479 students in the school, 63% receive free or reduced-price lunch (New York State Education Department, 2011). In terms of the racial/ethnic demographics of the school, 57% of students are white, 22% of students are Black or African American, 18% of students are Hispanic or Latino, and 2% of students are Asian or Native Hawaiian/Other Pacific Islander. In addition, 6% of students are labeled as having limited English proficiency. On the New York State (NYS) English Language Arts (ELA) third grade assessment, only 48% of this year’s current fourth grade students passed. Passing requires an achievement level of three (meeting learning standards) or four (meeting learning standards with distinction), All performance levels are determined by NYS (NYSED, 2011).

The classroom involved in the study consists of 20 general education students, 10 female and 10 male ranging in age between 9 and 10 years. In terms of the racial/ethnic origins of the class, 40% of students are white, 45% of students are Black or African American, 10% of students are Hispanic or Latino, 5% of students are Asian or Native Hawaiian/Other Pacific
Islander. No students have an Individualized Education Plan (IEP), however 25% of the students
do have a 504 plan. On the third grade NYS ELA assessment, 50% of the students received an
achievement level of three or four.

**Participants**

**Students** While there were 20 students in the fourth grade classroom, only 16
participated in this study due to parental consent. Reading levels were determined using the
Fountas & Pinnell Benchmark System (2008), as well as through running reading records (Clay,
2000) during guided reading groups. By this time in the year fourth grade student’s instructional
reading level should be at a level R (Fountas & Pinnell, 2008). Word study knowledge and
developmental spelling stages were determined through the use of the Elementary and Upper
Level Spelling Inventories from *Words their way* (2011). By this time of the year, fourth grade
students should be between the within word pattern and syllables and affixes stages (Bear et al.,
2011). All names of student participants have been changed to student-chosen pseudonyms to
protect the identity and rights of the participants.

Lina is a nine year old Hispanic female. She is an intelligent student who takes great
pride in her work. While she is quiet, she is learning to speak up in whole and small group
settings. Lina currently reads at grade level expectations at a Level R. On the third grade NYS
ELA assessment she received a level three. She thoroughly enjoys reading independently and has
a strong vocabulary. Her reading needs include literal and beyond the text comprehension.
According to the Elementary Spelling Inventory (ESI), Lina’s developmental spelling stage is
late derivational relations. However, on the Upper Level Spelling Inventory (USI), her spelling
stage is late syllables and affixes, with a need to develop her knowledge of the early and middle
derivational relations stage. Both assessments show a need for further understanding of affixes, reduced vowels, unaccented syllables, Greek and Latin elements, and assimilated prefixes.

Curly is a 10 year old White female. She is a leader in the classroom with her strong inquisitive nature and high work ethic. Curly currently reads above grade level expectations at a Level S. On the third grade NYS ELA assessment she received a level three. Her reading strengths include independent reading, writing about her reading, questioning, and discussing her reading. Her reading needs primarily involve vocabulary development and beyond the text comprehension. According to the ESI, Curly’s developmental spelling stage is late within word pattern. However, while she shows that she uses but confuses concepts in that spelling stage, she spells independently through all of the syllables and affixes stage. She needs to work on her understanding of vowel patterns within single syllable words.

Block is a nine year old African American male. He enjoys learning and works to understand new material. However, his loud and boisterous personality often inhibits his learning and the learning of his classmates. Constant interruption, distraction of self and peers, and his lack of control of his body in unstructured areas such as recess and the bus cause him to miss instruction. Block currently reads just below grade level expectations at a Level P. On the third grade NYS ELA assessment he achieved a level three. However, because of the triangulation of data between his benchmark assessment, NYS test, and district screening, Block receives tier two intervention through ELA AIS as a precautionary measure. The AIS consists of reading with a Teacher’s Assistant (TA) for ten minutes three or more times a week to focus on fluency and comprehension. Block enjoys discussing his reading in reading group and has adequate grade level vocabulary, but he struggles focusing on reading independently. His reading needs include literal comprehension and beyond the text comprehension. According to the ESI, Block’s
developmental spelling stage is late syllables and affixes. His spelling needs include an understanding of unaccented final syllables.

Klous is a nine year old White male. He always pursues his learning with a positive attitude and strong work ethic. Klaus currently reads at grade level expectations at a Level R. On the third grade NYS ELA assessment he achieved a level two. He receives tier two intervention through ELA AIS. The AIS consists of reading with a TA for ten minutes three or more times a week to focus on fluency and comprehension. He is an active reading group participant and enjoys reading independently. Klaus’ reading needs include vocabulary development and comprehension. According to the ESI, Klaus’ developmental spelling stage is early derivational relations. However, on the USI his spelling stage is late within word pattern, with a need to develop his knowledge throughout the syllables and affixes stage. Both assessments show a need for further understanding of complex consonants, inflected endings, unaccented final syllables, and affixes.

Miranda is a 10 year old White female. She is reserved during group activities, but she is a hard worker. She has an Individualized Education Plan (IEP) for speech and language improvement, which specifies testing accommodations and instructional modifications. She attends speech improvement sessions in a group of two students for 30 minutes twice a week. Miranda currently reads at grade level standards at a level R. On the third grade NYS ELA assessment she achieved a level three. However, because of the triangulation of data between her benchmark assessment, NYS test, and district screening, Miranda receives tier two intervention through ELA AIS as a precautionary measure. The AIS consists of reading with a Teacher’s Assistant (TA) for ten minutes three or more times a week to focus on fluency and comprehension. She enjoys reading independently and sharing her thinking about her reading.
She is becoming more comfortable with speaking up in reading group. Her reading needs include vocabulary development and beyond the text comprehension. According to the ESI, Miranda’s developmental spelling stage is early derivational relations. However, on the USI her spelling stage is late within word pattern, with a need to develop her knowledge throughout the syllables and affixes stage. Both assessments show a need for further understanding of complex consonants, inflected endings, unaccented final syllables, and affixes.

Albrea is a 10 year old African American female. She exhibits a positive attitude towards learning, although she is more of a follower than a leader in small or whole group settings. She is diagnosed with Attention Deficit Hyperactivity Disorder (ADHD), but does not take any medication nor does she have a 504. Albrea currently reads below grade level expectations at a Level L. On the third grade NYS ELA assessment she received a level one. Albrea receives tier three intervention through ELA Academic Intervention Services (AIS). The AIS consists of Leveled Literacy Intervention (LLI) five times a week in a small group of three students. She does not consistently independently read as she is easily distracted. During reading group she is an active participant, but does not focus well when I whisper read and conference with other students at the table. Her areas of need include comprehension, phonics knowledge, fluency, and vocabulary development. Albrea’s developmental spelling stage is middle letter name-alphabetic. However, while she shows that she uses but confuses concepts in that spelling stage, she spells independently through the middle within word pattern stage. She needs to work on her understanding of short vowels.

Gryffindor is a nine year old White female. She is a leader in the classroom through her cooperation, positive behavior, and good work ethic. She works well in all settings and is regarded by her peers as the smartest student in the class. Gryffindor currently reads above grade
level expectations at a Level S. On the third grade NYS ELA assessment, she achieved a level four (the only one in the classroom to do so). Reading is her most beloved pastime. During independent reading, she cannot be pulled away from her books. During reading group she is an active participant, always taking risks to answer higher-order thinking questions. Her reading need involves vocabulary development. According to the ESI, Gryffindor’s developmental spelling stage is late derivational relations. However, on the USI her spelling stage is late syllables and affixes, with a need to develop her knowledge of the middle and late derivational relations stage. Both assessments show a need for further understanding of affixes, Greek and Latin elements, and assimilated prefixes.

Zaza is a 10 year old White female. She is an outgoing, cooperative, and independent student. Zaza currently reads at grade level expectations at a Level R. On the third grade NYS ELA assessment she achieved a level three. She strongly enjoys reading independently. She is an active reading group participant through her engaging discussions of reading. Her areas of need include vocabulary development and beyond the text comprehension. Zaza’s developmental spelling stage is early syllables and affixes. However, while she shows that she uses but confuses concepts in that spelling stage, she spells independently in the middle syllables and affixes stage. She needs to work on her understanding of inflected endings.

Huey is a nine year old African American male. He is a cooperative, intelligent student, but his anxiety often gets in the way. Huey values complete understanding of material, so when he does not know how to do what is expected he gets upset. Too often he gets upset before ever asking for assistance. His frustrated behavior is displayed in such ways as grumbling, fists, crying, or head down and covered. Huey also has ADHD with a 504 for testing accommodations and instructional modifications. He takes medication in the mornings at home. Huey currently
reads just below grade level expectations at a Level P. On the third grade NYS ELA assessment he achieved a level two. Huey receives tier two intervention through ELA AIS. The AIS consists of reading with a TA for ten minutes three or more times a week to focus on fluency and comprehension. He is an active reading group participant and enjoys reading independently, but he struggles focusing when there is too much noise in the room. His reading needs include vocabulary development and beyond the text comprehension. Huey’s developmental spelling stage is late within word pattern. However, while he shows that he uses but confuses concepts in that spelling stage, he spells independently through the middle syllables and affixes stage. He needs to work on his understanding of vowel patterns within single syllable words.

Mo is a nine year old White female. She is a cooperative, respectful, and hard working student. She is diagnosed with anxiety and has a 504 for testing accommodations and instructional modifications. This anxiety plays into her academic achievement both at school and at home. Mo currently reads below grade level expectations at a level M. On the third grade NYS ELA assessment she achieved a level two. Mo receives tier three intervention through ELA AIS. The AIS consists of small group reading instruction of four students, three times a week for half an hour. In addition, she participates in a Sylvan tutoring program twice a week for one hour each session that focuses on reading. Mo enjoys reading independently, but often is distracted by peers. She is an active participant in reading group, often sharing her thinking about reading. Her reading needs include phonics, vocabulary, fluency, and comprehension. Mo’s developmental spelling stage is middle within word pattern, but she is independent in early syllables and affixes. She needs to work on her understanding of long vowel and other vowel patterns in single syllable words.
Basketball is a nine year old African American male. He works hard when he understands the material, but when he does not understand he shuts down. Shutting down for Basketball means acting grumpy, head down on the desk, destroying papers through cutting, drawing, ripping, or crumpling, or breaking of classroom materials. While he is constantly encouraged by his teachers to ask for help when does not understand the material, he rarely seeks assistance. His noncompliance results in disengagement in classroom activities and lack of instruction, and sometimes removal from the classroom. Basketball currently reads below grade level expectations at a level M. On the third grade NYS ELA assessment he achieved a level one. Basketball receives tier three intervention through ELA AIS. The AIS consists of small group reading instruction of four students, three times a week for half an hour. He rarely reads independently, largely due in part to his lack of enjoyment for reading and his difficulty choosing appropriate books. His reading needs include vocabulary development, comprehension, and fluency. Basketball’s developmental spelling stage is early within word pattern, but he independently spells at the middle within word pattern stage. His needs include a deeper understanding of blends.

Hairy is a nine year old White male. He is an intelligent, cooperative, and inquisitive student. Hairy currently reads above grade level expectations at a Level U. On the third grade NYS ELA assessment he achieved a level three. He strongly enjoys reading independently and is an active reading group participant. His areas of need include vocabulary development, literal comprehension, and beyond the text comprehension. According to the ESI, Hairy’s developmental spelling stage is late derivational relations. However, on the USI his spelling stage is middle syllables and affixes stage. Both assessments show a need for further understanding of unaccented final syllables, affixes, and Greek and Latin elements.
Daniel is a nine year old African American male. He is an introverted, but extremely inquisitive student. He is cooperative and respectful to all students and teachers he works with throughout the day. Daniel currently reads at grade level expectations at a Level R. On the third grade NYS ELA assessment he achieved a level two. Daniel receives tier two intervention through ELA AIS. The AIS consists of reading with a TA for ten minutes three or more times a week to focus on fluency and comprehension. He is an active reading group participant. While he enjoys reading independently, he acknowledges that he struggles focusing when there is a lot of noise, particularly when I whisper read with other students at the reading table during reading group. His reading needs include vocabulary development, fluency, and comprehension. Daniel’s developmental spelling stage is late within word pattern. However, while he shows that he uses but confuses concepts in that spelling stage, he spells independently in the early syllables and affixes stage. He needs to work on his understanding of vowel patterns within single syllable words.

Cutey is a nine year old African American female. She works hard to understand new material and mostly works well in small groups. Due to her strong personality and desire to lead, she often needs reminders to cooperate and take a step back as a follower. Cutey currently reads just below grade level expectations at a Level P. On the third grade NYS ELA assessment she achieved a level three. She enjoys reading independently, often whisper reading to herself and acting as if she is reading aloud as a teacher. During reading group she is an active participant, but sometimes needs reminders to allow others to share their thinking. Her reading needs include comprehension and vocabulary development. Cutey’s developmental spelling stage is middle syllables and affixes, with a need for further understanding of syllable junctures.
Pickles is a 10 year old Asian female. She is an intelligent, cooperative, independent, and inquisitive student. Her strong leadership skills helped her be selected as the class’ student council leader. Pickles currently reads above grade level expectations at a Level U. On the third grade NYS ELA assessment she achieved a level three. She strongly enjoys reading independently and is an active reading group participant. Her areas of need include vocabulary development and beyond the text comprehension. According to the ESI, Pickles’ developmental spelling stage is early derivational relations. However, on the USI her spelling stage is late within word pattern, with a need to develop her knowledge of the middle and late syllables and affixes stage. Both assessments show a need for further understanding of complex consonants, unaccented final syllables, and affixes.

James is a 10 year old White male. He is an intelligent, cooperative, and respectful student. While he tends to be reserved, he is becoming more comfortable with speaking up, especially in reading group. James currently reads above grade level expectations at a Level S. On the third grade NYS ELA assessment he achieved a level three. He strongly enjoys reading independently. His reading strengths include literal comprehension, questioning, and inferring. His areas of need include vocabulary development and beyond the text comprehension. According to the ESI, James’ developmental spelling stage is late derivational relations. However, on the USI his spelling stage is late within word pattern, with a need to develop his knowledge throughout the syllables and affixes stage. Both assessments show a need for further understanding of complex consonants, inflected endings, unaccented final syllables, and affixes.

**Researcher Stance**

In this study I took the role of both the researcher and the teacher. Specifically, I was be an active participant observer in which I actively taught, while at the same time actively
observing the outcomes of my teaching and adjusting accordingly (Mills, 2011). Furthermore, I systematically recorded my observations and collected data (Mills, 2011) through the use of video recordings. This researcher stance made it difficult to teach and observe at the same time. Therefore, the video recordings helped me to completely observe the daily word study lessons and student’s work.

I teach fourth grade which I have taught each of the four years during my time in Dillon. I was granted tenure in June 2011. I have been with this current class of students since September 2011. I am currently working on obtaining a Master’s Degree in Literacy, grades Birth-12, from St. John Fisher College. My initial certifications include Childhood Education grades 1-6, and Early Childhood Education birth-grade 2. I have a bachelor’s degree in History and a minor in Education from Colgate University. I studied abroad for a semester in Edinburgh, Scotland, United Kingdom during which time I studied ancient history and art. I currently reside in Rochester, New York.

Method

This study occurred over a two-week period. At the start of the study, parents and students were asked to fill out a questionnaire (see Appendices A and B for a blank form) regarding their opinions about word study instruction from the beginning of the year to that moment. Putting names on the questionnaire were optional.

Next, students were given the Elementary Spelling Inventory (ESI) as a whole class (Bear et al., 2011). I read the 25 words aloud as the student’s recorded their answers on a separate piece of paper. Then, I filled out a feature guide for each student to determine their developmental spelling stage (see Appendix C for a blank feature guide), as well as the spelling features they have mastered, use but confuse, and still need to learn. After all feature guides were
complete, student numbers were compiled onto a class composite form to determine small groups. Students in the same developmental spelling stage were grouped together. However, some students were outliers and therefore grouped with the closest and most appropriate group.

Based on the assessment results, the feature guides did not provide any information as to areas of need for instruction for several students because they mastered all of the orthographic features for that spelling inventory. Therefore, I administered the Upper Spelling Inventory (USI) to the seven students who I determined to be within the derivational relations spelling stage. I read the 31 words aloud as the student’s recorded their answers on a separate piece of paper. Then, I filled out a feature guide for each student to determine their developmental spelling stage (see Appendix D for a blank feature guide), as well as the spelling features they have mastered, use but confuse, and still need to learn. While I had already determined small groups for instruction, I used this assessment to decide on the orthographic features I would focus on each week with that group of students.

My classroom had an ocean theme, and therefore each small group was based on an ocean creature: the oysters, the fish, and the crabs. The first group, the oysters, were the within word pattern group. The students in this group included Mo, Basketball, Albrea, and three other students who did not participate in the study. The second group, the fish, included six students from the late within word pattern and syllables and affixes stages. These students were Daniel, Huey, Block, Zaza, Cutey, and one other student who did not participate in the study. The final group, the crabs, was the largest group with eight students. These students were Lina, Hairy, James, Pickles, Miranda, Klaus, Curly, and Gryffindor.
Before small group instruction started, I wanted to ensure that my student’s understood how to perform a word sort, as recommended by Bear et al. (2011). Therefore, for the two days leading up to small group instruction, I lead the class in a practice teacher-directed guess my category word sort (Bear et al., 2011). On the first day I introduced the sort on the SMART Board. I read through all of the words with the students, then sorted a few words into categories without giving away the feature or putting up the category headers. Students were then invited to try sorting the rest of the words and were asked to describe the category headers. Once the generalizations were established (beginning consonants), I wrote the category headers at the top of each list. At the end the students were given their own copy of the word sort to cut out and complete. Each student’s word sorts were kept in a labeled ziplock sandwich bag. On the second day I asked the students to participate in a repeated sort in which they did the same word sort from the previous day (Bear et al., 2011). Then, the students wrote down the sort in their writing notebook.

Each of the two weeks of small group word study instruction was a five-day rotation that consisted of the same routines. The small group instruction occurred mostly in the context of the reading workshop block, with also additional instructional time set aside throughout the day. On the first day I explained and referred to the word study schedule poster. Reading groups did not meet on this day, and therefore students worked in their word study group as they rotated through three centers, each 20 minutes long: a teacher center, independent reading, and a computer reading program as designated by the school. During the first day teacher center, each small group was introduced to their developmentally appropriate words for the week through a word sort. At the end of all three center rotations, students then met on the class rug as a whole
class to review the features they were to study that week. Then, students were given their weekly spelling homework (called spelling contracts) with all of the words from the word sort attached.

On the second day of the weekly rotation, students were expected to complete a repeated sort at an independent center during Reading Workshop for 15 minutes. As directed by the daily center schedule, students went to their seats and took out their cut-up word sort from the previous day. They independently resorted their words, then wrote down the sort in their writing notebook. If students needed assistance they were given a brief teacher session when appropriate, as I was teaching guided reading to another group during this independent center. Students worked independently.

On the third day of the weekly rotation, students again worked independently at a center during Reading Workshop for 15 minutes. As directed by the daily center schedule, students worked at their seat on a word hunt using their independent reading books. During the previous day students wrote down the word sort in their writing notebook. They then used this writing as the start of a word hunt. As students found words that followed their orthographic principle for the week, they wrote them down in the appropriate categories in their notebooks. At the end of Reading Workshop, with about 10 minutes to go, students gathered in their small groups with a colored pen. I first asked students to count how many words they found and I recorded this number. Next, going in a circle, each student in each group shared words they found independently during center time. If other group members did not have that word recorded in their notebook, the other group members added it to their lists using the colored pen. This distinction between pencil and pen indicated to me what the students achieved independently versus with the assistance of their peers.
On the fourth day of the weekly routine, all groups met at the same time outside of the Reading Workshop block. First, I introduced and explained each game to each group. Then, for about 15 minutes, the students played games with their small groups pertaining to their generalization of the week. I circulated between groups and assisted as needed.

On the fifth and final day of the weekly routine, I gave a spelling assessment to each group. Every student was expected to prepare a loose-leaf sheet of paper with their pseudonym and date on the top. Then, I read one group’s words at a time. The other students sat quietly either listening or reading. I administered 10 of the words from each group’s word sort, as well as five words that are not part of the sort, but followed the same generalization. The spelling assessments were then be graded, recorded, and returned to the students.

During the study, the oyster group first worked on short vowel words containing ‘e,’ ‘o,’ and ‘u,’ and long ‘o’ words during the second week containing the patterns ‘oa,’ ‘ow,’ and ‘o-consonant-e.’ The fish group first studied how to add ‘ed’ and ‘ing’ to base words using the doubling consonant, drop the ‘e,’ or change nothing rules. During the second week the students in the fish group worked on words ending in ‘er,’ ‘ar,’ and ‘or’ based on the ending /er/ sound. Finally, the crab group studied the suffixes ‘ible’ and ‘able’ during the first week, then the prefixes ‘im,’ ‘in,’ ‘ir,’ and ‘il’ during the second week. This group’s focus each week was to understand the meaning and reason for using each affix based on the base word’s spelling.

Spelling homework, called the ‘Spelling Contract’ as to stay consistent with the student’s spelling homework throughout the school year, was assigned weekly. This assignment consisted of nine activities of which students chose three to do throughout the week. Students were given from the first day to the fifth day to complete all three activities and turn in their homework.
Such activities included word hunts, word definitions, word illustrations, creation of games, stories, or comics, and parent signatures for speed sorts.

At the end of the two weeks, students and parents completed questionnaires about their opinions of word study during the study (see Appendices E and F for blank forms). The answers from this questionnaire were compared against the answers from the first questionnaire to determine any changes in attitude towards word study instruction. In addition, I re-administered the ESI and USI and completed the feature guides and class composite to determine any changes in student achievement.

**Quality and Credibility of Research**

In doing this research it was important to ensure the validity of the study (Mills, 2011). According to Mills (2011), in order for a qualitative study to be valid, four characteristics must be met: credibility, transferability, dependability, and confirmability. Mills (2011) defines credibility as a researcher’s ability to cope with patterns in the study that are not easily explained, as well as their ability to consider various complexities that arise during the research. To ensure credibility during this study, I applied several strategies. As the teacher in the classroom, I was able to guarantee my prolonged participation at the research site (Mills, 2011). During my research I used persistent observation to identify atypical characteristics in my data. To make sure I avoided bias, I used peer debriefing with a critical colleague who listened and reflected on my insights during the research. Furthermore, I practiced triangulation to cross-check my data and ensure credibility (Mills, 2011). My data included both qualitative and quantitative methods: questionnaires, spelling inventories, and field notes.

Transferability is the understanding of a researcher that their study is bound by the context in which it occurs and that generalizations should not be developed for the larger
To ensure transferability, I kept detailed and descriptive notes about the context of the study through my field notes. These notes can be used to compare the context of the study with other settings (Mills, 2011).

Mills (2011) defines dependability as “the stability of the data” (p. 104). I ensured dependability through my use of multiple sources of data. For example, my use of qualitative field notes compensated for the purely quantitative aspect of the spelling inventories. Therefore, the strengths of certain data collection methods compensated for the weaknesses of other collection methods (Mills, 2011). Additionally, my strict process of data collection, analysis, and interpretation was all recorded in written form, therefore leaving an “audit trail” for future researchers to use to examine my study (Mills, 2011, p. 105). This written documentation included the original questionnaires, field notes, spelling inventories, feature guides, and class composites.

Finally, confirmability refers to “the neutrality or objectivity of the data that has been collected” (Mills, 2011, p. 105). My triangulation of data guaranteed confirmability because multiple sources of data were compared and crosschecked. Furthermore, I practiced reflexivity, or revelation of underlying biases or assumptions.

**Informed Consent and Protecting the Rights of the Participants**

Before beginning my research, I collected informed consent to protect the rights of the participants. The students were presented with a written assent form since they are in fourth grade that described the specifications of the study, including the risks and their rights. It also asked students for their permission and signature to confirm authorization and participation in the study. I explained to the student’s that their names were ensured to remain anonymous and
all other identifying marks removed. Students were invited to create their own pseudonyms for use in this study.

Additionally, I sent home a parental consent form since the students were under the age of 18. The form explained the specifications of the study, the risks, benefits, and the parent’s rights. Parents were asked to sign the form granting me permission to work with their child in this study, as well as granting me permission to use their child’s data and information. I also explained to parents through the consent form that all names would be anonymous and all other identifying marks removed.

**Data Collection**

To determine if student achievement increased using small group instruction more than whole group instruction, I collected both qualitative and quantitative data (Mills, 2011). I triangulated my data by using three methods of collection in order to ensure a more complete understanding of the research (Mills, 2011). The first method of data collection had two parts. The first part was both a qualitative and quantitative questionnaire for parents to fill out before and after the study. The first questionnaire was attached to the consent form and both forms were to be returned simultaneously. The questions used a semantic differential (Mills, 2011) that required parents to rate various aspects of word study on a scale of adjectives. The questions were based on their experiences with their student’s word study instruction from the beginning of the school year to that moment. The numbers will then be used to create totals and averages to determine parent’s attitudes towards word study as being positive or negative. Aside from the semantic differential, parents were also asked to provide written comments about the same questions. Parents had the option of putting their names on the questionnaire. A second questionnaire was sent home with the same questions at the conclusion of the study, but parents
were asked to answer based on the word study instruction during the study. The numbers and comments were used to determine attitude changes towards word study during the study.

The second part of the first method of data collection was both a qualitative and quantitative questionnaire for the students to fill out before and after the study. The questions used a semantic differential (Mills, 2011) that required students to rate various aspects of word study on a scale of adjectives. The questions were based on their experiences with word study instruction since the beginning of the school year to that moment. The numbers were then used to create totals and averages to determine student’s attitudes towards various aspects of word study as being positive or negative. Aside from the semantic differential, students were also asked to provide written comments about certain questions. Students had the option of putting their names on the questionnaire. A second questionnaire was given during class at the conclusion of the study with similar questions, but students answered based on the word study instruction during the study. The numbers and comments were used to determine attitude changes towards word study during the study.

The second method of data collection was the use of quantitative spelling inventories and their corresponding feature guides. The spelling inventories provided me with how many words each student spelled correctly, while the feature guide provided numbers as to the specific spelling features students knew, used but confused, or did not know at all. Using all of the feature guide information, a class composite was created to understand the class as a whole. This data was then used to group students by their developmental spelling stages for small group instruction. The spelling inventories were given before and after the study and the feature guides were completed to determine changes in student achievement.
The third and final method of data collection was video recordings and field notes. During my instruction of word study, I recorded each session. Then, I watched the video and recorded field notes based on my observations. Observations focused on student understanding of orthographic features, completion and understanding of work, attention and motivation to word study, and participation. The field notes were typed.

**Data Analysis**

At the completion of the study it was necessary to organize all of the data. First, ESI and USI assessments were scored and then put into student-specific feature guides. Once all of the feature guides were complete, a classroom composite was developed to reflect the class’ achievement. Tables were created for the classroom composites for the ESI and USI assessments from February and March. Next, a table was created to outline individual student progress on the ESI from September to March. Student progress from September to February was measured against student progress from February to March to determine whether students progressed more during whole group or small group instruction. No matter the progress, individual student’s feature guides from February and March were compared and analyzed to determine individual progress in specific orthographic features both taught and not taught in small groups.

Student and parent questionnaires from before and after the study were also analyzed. Answers that were rated used a numerical value were put into a spreadsheet and averages were calculated for each question. A table was created to show average student attitudes before and after the study. All written comments that accompanied questions were gathered together on separate pieces of paper for each question. The averages and comments were then compared between before and after the study to determine changes in attitude towards word study routines for both students and parents.
Finally, field notes were typed up after I watched each daily video recording. I read through the field notes several times. As I read, I began to code my information to look for any emerging patterns and meaning (Mills, 2011). I then looked at all of the codes written in the margins of the field notes and analyzed them for similar themes.

**Findings and Discussion**

The purpose of this study was to determine whether differentiated small group word study instruction would impact student achievement more than whole group instruction. An analysis of student achievement on spelling inventories, responses on student and parent questionnaires, as well as the study’s field notes revealed two key themes. The first theme to present itself was that student achievement increased more in the two weeks of small group differentiated word study instruction than in the five months of whole group word study instruction. Second, students exhibited more positive attitudes, motivation, and engagement towards and during small group word study instruction than compared to whole group instruction.

**Increased Student Achievement Through Developmental Small Group Instruction**

Word study instruction in this classroom from September to February (the start of this research) involved a whole group instructional method. Instruction was based upon the perspective of generalizations, which requires children to recognize, study, and learn how words share sounds and patterns; children learn “the common features and rules of spelling” (Johnston, 2001, p. 144). Each week students learned the same ‘rule,’ but each had words appropriate for their level as determined by the teacher. Beginning in March and continuing for the two weeks of this study, a new instructional method was used: the developmental approach. As proven through research, the acquisition of spelling knowledge is a developmental process through which most
children progress, no matter their age or learning difficulty, even though they may progress at varying rates (Henderson, 1990; Templeton & Bear, 1992; Invernizzi & Hayes, 2004). Therefore, the developmental approach to spelling instruction requires teachers to examine children’s spelling errors and place them on the continuum of developmental orthographic knowledge. This placement (or identification of spelling stage) results in child placement within the curriculum at an appropriate developmental level (Henderson, 1990; Johnston, 2001).

Student’s orthographic knowledge was determined using the ESI and USI (Bear et al., 2011). Administration of the spelling inventories occurred three times throughout the school year: September, February, and March. Both Bear et al. (2011) and Ganske (1999) concur that assessing a child’s orthographic knowledge several times throughout the school year will provide developmental information that can track progress, as well as inform instruction. After administration of each spelling inventory, a feature guide was filled out and analyzed to determine each child’s developmental level (Bear et al., 2011).

Table 1 below displays student achievement data on the ESI across the school year. Students were first tested in September at the beginning of the school year, then in February before the start of the study, and finally in March at the conclusion of the study. For each month of assessment shown in Table 1 below, every student’s points and correlating developmental spelling stage are recorded.

Table 1

<table>
<thead>
<tr>
<th>Student Name</th>
<th>September Total Points (out of 87)</th>
<th>September Developmental Spelling Stage</th>
<th>February Total Points (out of 87)</th>
<th>February Developmental Spelling Stage</th>
<th>March Total Points</th>
<th>March Developmental Spelling Stage</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Name</td>
<td>Score</td>
<td>Syllables &amp; Affixes</td>
<td>Early Derivational Relations</td>
<td>Late Within Word Pattern</td>
<td>Middle Syllables &amp; Affixes</td>
<td>Early Derivational Relations</td>
</tr>
<tr>
<td>--------</td>
<td>-------</td>
<td>---------------------</td>
<td>-------------------------------</td>
<td>--------------------------</td>
<td>--------------------------</td>
<td>-------------------------------</td>
</tr>
<tr>
<td>Lina</td>
<td>76</td>
<td>Late Syllables</td>
<td>86</td>
<td>Late Derivational Relations</td>
<td>87</td>
<td>Derivational Relations</td>
</tr>
<tr>
<td>Curly</td>
<td>71</td>
<td>Early Syllables</td>
<td>86</td>
<td>Early Derivational Relations</td>
<td>77</td>
<td>Early Derivational Relations</td>
</tr>
<tr>
<td>Block</td>
<td>68</td>
<td>Early Syllables</td>
<td>86</td>
<td>Early Derivational Relations</td>
<td>71</td>
<td>Early Derivational Relations</td>
</tr>
<tr>
<td>Klaus</td>
<td>72</td>
<td>Early Syllables</td>
<td>73</td>
<td>Early Derivational Relations</td>
<td>75</td>
<td>Early Derivational Relations</td>
</tr>
<tr>
<td>Miranda</td>
<td>64</td>
<td>Middle Syllables</td>
<td>77</td>
<td>Early Derivational Relations</td>
<td>67</td>
<td>Middle Syllables &amp; Affixes</td>
</tr>
<tr>
<td>Albre a</td>
<td>34</td>
<td>Middle Letter Name</td>
<td>49</td>
<td>Middle Letter Name-Alphabetic</td>
<td>49</td>
<td>Middle Within Word Pattern</td>
</tr>
<tr>
<td>Gryffindor</td>
<td>83</td>
<td>Late Syllables</td>
<td>87</td>
<td>Late Derivational Relations</td>
<td>87</td>
<td>Late Derivational Relations</td>
</tr>
<tr>
<td>Zaza</td>
<td>61</td>
<td>Middle Syllables</td>
<td>63</td>
<td>Early Syllables &amp; Affixes</td>
<td>68</td>
<td>Early Derivational Relations</td>
</tr>
<tr>
<td>Huey</td>
<td>50</td>
<td>Late Within Word Pattern</td>
<td>55</td>
<td>Late Within Word Pattern</td>
<td>54</td>
<td>Late Within Word Pattern</td>
</tr>
<tr>
<td>Moe</td>
<td>42</td>
<td>Late Letter Name</td>
<td>43</td>
<td>Middle Within Word Pattern</td>
<td>53</td>
<td>Late Within Word Pattern</td>
</tr>
<tr>
<td>Basketball</td>
<td>36</td>
<td>Early Within Word Pattern</td>
<td>43</td>
<td>Early Within Word Pattern</td>
<td>43</td>
<td>Middle Within Word Pattern</td>
</tr>
<tr>
<td>Harry</td>
<td>71</td>
<td>Late Syllables</td>
<td>85</td>
<td>Late Derivational Relations</td>
<td>85</td>
<td>Late Derivational Relations</td>
</tr>
<tr>
<td>Daniel</td>
<td>54</td>
<td>Middle Within Word Pattern</td>
<td>56</td>
<td>Late Within Word Pattern</td>
<td>68</td>
<td>Late Syllables &amp; Affixes</td>
</tr>
</tbody>
</table>
I determined from the ESI that more assessment data was needed to provide more in-depth information on specific features to work on in small group instruction, especially for Gryffindor, Lina, and Harry who either mastered each feature on the ESI, or were within two points of a perfect score. The USI would provide the information needed to guide instruction. Therefore, seven students were given the USI who, as seen in Table 1 above, were all in the derivational relations stage. However, as seen in Table 2 below, the results of the USI yielded different spelling stage results.

Table 2

Comparison of USI Results from February 2012 to March 2012

<table>
<thead>
<tr>
<th>Student Name</th>
<th>February Total Points (out of 99)</th>
<th>February Developmental Spelling Stage</th>
<th>March Total Points (out of 99)</th>
<th>March Developmental Spelling Stage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lina</td>
<td>74</td>
<td>Late Syllables &amp; Affixes</td>
<td>83</td>
<td>Late Syllables &amp; Affixes</td>
</tr>
<tr>
<td>Klaus</td>
<td>46</td>
<td>Late Within Word Pattern</td>
<td>47</td>
<td>Late Within Word Pattern</td>
</tr>
<tr>
<td>Miranda</td>
<td>45</td>
<td>Late Within Word Pattern</td>
<td>48</td>
<td>Late Within Word Pattern</td>
</tr>
<tr>
<td>Gryffindor</td>
<td>78</td>
<td>Late Syllables &amp; Affixes</td>
<td>89</td>
<td>Late Syllables &amp; Affixes</td>
</tr>
<tr>
<td>Name</td>
<td>Points</td>
<td>Stage</td>
<td>Points</td>
<td>Stage</td>
</tr>
<tr>
<td>-------</td>
<td>--------</td>
<td>--------------------------------</td>
<td>--------</td>
<td>--------------------------------</td>
</tr>
<tr>
<td>Harry</td>
<td>62</td>
<td>Middle Syllables &amp; Affixes</td>
<td>73</td>
<td>Late Syllables &amp; Affixes</td>
</tr>
<tr>
<td>Pickles</td>
<td>56</td>
<td>Late Within Word Pattern</td>
<td>67</td>
<td>Middle Syllables &amp; Affixes</td>
</tr>
<tr>
<td>James</td>
<td>59</td>
<td>Late Within Word Pattern</td>
<td>61</td>
<td>Middle Syllables &amp; Affixes</td>
</tr>
</tbody>
</table>

Table 2 above displays student achievement data on the USI from February, before the study, and from March, after the study. The September 2011 results are unavailable because the USI was not administered at the beginning of the school year. For each month of assessment shown in Table 2 above, each student’s points and correlating developmental spelling stage are recorded. When comparing the February results on the USI as seen in Table 2 above with the February results on the ESI as seen in Table 1 above, all seven students appeared to decrease in their developmental spelling stage, thus appearing to have regressed in their orthographic knowledge. Gryffindor and Lina moved from the late derivational relations stage to late syllables and affixes stage. Harry changed from the late derivational relations stage to middle syllables and affixes stage, while James changed from the middle derivational relations stage to late within word pattern. Miranda, Pickles, and Klaus moved the most stages, from early derivational relations to late within word pattern.

Upon closer examination of the ESI and USI, these inventories were found to have varying word features tested within each spelling stage. For instance, at the middle and late within word pattern stage on the ESI, students are tested on common long vowels and other vowels. Contrastingly, students are tested on complex consonants for the same stage on the USI. The difference in words tested on the inventories is explained by Bear et al. (2011) in that the USI words “were chosen because they help identify, more specifically than the ESI, what
students in the syllables and affixes and derivational relations stages are doing in their spelling” (p.30). When administering the USI, Bear et al. (2011) suggest that administrators should “stop giving the USI to students who have misspelled five of the first eight words” (p. 30) as these words focus on the within word pattern stage, and administrators should administer the ESI instead to help better target instruction. However, Bear et al. (2011) does not discuss the discrepancy as found in this study when a student demonstrates success in all within word pattern features on the ESI, but not on the USI. While the ESI and USI have been found to be reliable and valid (Bear et al., 2011), the varying results between inventories for the same students in this study are disconcerting. Despite the difference in developmental spelling stage results for the seven students tested, the students were kept together in the same group and the feature guides from both the ESI and USI were used to determine orthographic features to be studied in small group.

By this time of the year, fourth grade students should be between the within word pattern and syllables and affixes stages (Bear et al., 2011). As mentioned, Tables 1 and 2 above display student assessment data from the whole school year. The tables support that after the completion of the study, all students were meeting grade level expectations of developmental spelling stages, unlike at the beginning of the study. These findings may support that small group instruction focused on student’s specific orthographic needs helps to close the achievement gap and increase student word understanding and knowledge.

Further analysis of Tables 1 and 2 above shows that twelve students showed more progress during the two weeks of small group instruction than the five months of whole group instruction. These students included Lina, Curly, Block, Klaus, Gryffindor, Zaza, Moe, Harry, Daniel, Cutey, Pickles, and James. There did not appear to be a significant difference between
the performance of boys versus girls. Overall, the student’s total assessment score rose between two and 12 points. The following discussion will begin with reporting and analysis of individual student improvements. Then, possible reasons explaining why 12 of 16 students made more gains in small group instruction than did in small group instruction will be provided and discussed.

Daniel made the most significant growth during small group word study instruction as seen by the ESI results from February and March. He improved by 12 total points and one developmental spelling stage. He gained independence with other vowel patterns and syllable junctures. In terms of the features he learned during small group instruction, he accurately spelled three of the four words using the features –ed and –ing, still showing he needs to work on dropping the ‘e’ from a base word before adding –ed or –ing. He also accurately spelled only two of the three words using the features –er, -or, and –ar. Overall, Daniel improved six times more with small group instruction than whole group instruction. Continuation of small group instruction for Daniel could only be more beneficial for his progress and overall orthographic knowledge.

Moe had the second highest achievement growth, increasing her total points by 10 and moving up within a developmental spelling stage. She improved in achievement for the features of short vowels, digraphs, long vowels, inflected endings, syllable junctures, and harder suffixes. While she declined in other vowel patterns, these features were not taught during small group instruction. Moe learned short vowel and long ‘o’ patterns during small group instruction and subsequently spelled all but one word accurately on the March ESI. The misspelled word was ‘float,’ for which Moe wrote ‘flot.’ While she recognized the ‘o’ sound, she did not apply her knowledge of short vowels to recognize this as inaccurate. Moe’s significant improvement
demonstrates the success of small group instruction and the need to continue this instructional method to further help her progress with word knowledge.

Curly improved by six total points and two spelling stages. On the February ESI Curly demonstrated a need for instruction with other vowels and independence through the syllables and affixes stage. Even though Curly did not receive small group instruction focused on other vowel patterns, according to her individual feature guides she achieved independence with this feature in March as she had in September. These results most likely indicate inattention to her spelling during the February ESI since she demonstrated she knew how to spell with those features before (in September) and after the study (March). Additionally, Curly improved with unaccented final syllables and bases or roots. Curly is consistent with the finding that small group instruction benefited her understanding and helped her progress more significantly than whole group instruction.

Block did not make any gains in total points or spelling stage during whole group instruction over five months, but did improve after two weeks of small group instruction. These results confirm the effectiveness of small group instruction for word study. Block increased to independence in unaccented final syllables. He also demonstrated full understanding of the features studied in small group instruction (adding –ed or –ing and spelling with –er, -or, and –ar at the end of words) through accurate spellings on the March ESI.

Zaza made little growth (two total points) during whole group instruction, but gained five total points and an entire spelling stage following small group instruction. In February she showed a need for instruction in inflected endings and unaccented syllables. Her small group instruction focused on the aforementioned features and she demonstrated complete understanding of these features on the March ESI through accurate spellings. Small group
instruction focused specifically on her needs clearly helped her progress and assimilate new features into her knowledge, again supporting the use of small group word study instruction in the classroom.

While Cutey made gains from one spelling stage to another after whole group instruction, she showed more control of orthographic features within the syllables and affixes stage prior to small group instruction, therefore concluding it was a more effective method of instruction for Cutey. She increased in March by 10 total points, showing independence in syllable junctures unlike her February results, and spelling five more words correctly. She also showed improvement in long vowels and harder suffixes. Overall, Cutey demonstrated an understanding of the features taught in small group instruction (adding –ed or –ing and spelling with –er, -or, and –ar at the end of words) with the exception of one word, ‘cellar.’

Klaus, Pickles, and James all took both the ESI and USI. On the ESI they each showed an improvement of three total points with no movement of spelling stage. It should be noted that the ESI showed they were all in the derivational relations stage, which is above grade level expectations. On the USI Klaus and James did not show significant improvements after small group instruction, with only an increase of three total points, compared to Pickles’ increase of 11 total points. All three students increased by one developmental spelling stage according to the USI. Nevertheless, they each demonstrated an understanding of the features taught during small group instruction through their spellings on the USI. During the first week of small group instruction students learned the suffixes –ible and –able and when to use them while spelling. The second week of instruction included teaching of the prefixes –ir, -in, -il, and –im for both spelling and meaning. Klaus and James accurately spelled all three words following these features on the USI and Pickles accurately spelled two of the three words. The results from all
three students show that small group instruction does impact student achievement more than whole group instruction.

When analyzing Table 1 above, it may seem that three students showed more academic growth with whole group instruction (Gryffindor, Lina, and Harry). However, by February they each were within two points of a perfect score on the ESI, thus concluding that they had mastered all features up to the late derivational relations stage. Therefore, the students could not have made more gains during small group instruction than during whole group instruction because they could only gain one or two feature points on the ESI. As a result, comparisons between the USI results of February and March, as shown in Table 2 above, were used to determine if small group instruction affected student achievement. A conclusion may be made that small group instruction over the two week study significantly improved the orthographic knowledge of Lina, Gryffindor, and Harry since their total points improved between 9 and 11 points respectively. While only Harry improved spelling stages according to the USI, Lina and Gryffindor showed their new understanding of spelling through an increase in words spelled correctly and features used in spelling. All three students showed an understanding of the features studied during small group instruction through accurate spellings on the USI. Therefore, small group instruction increased student achievement.

The academic improvement of 12 of 16 students over the course of this study is significant. According to the ESI, these students progressed more in two weeks than in five months. One possible explanation for this improvement is that following a developmental spelling approach to word study instruction forces teachers to focus on student’s Zone of Proximal Development (ZPD). For every student, there are independent, instructional, and frustrating levels for all areas of learning. The most amount of progress will be when a student
is working within their instructional level, not above or beyond it. Studied and labeled by Vygotsky (1978), the ZPD is the area where children move from adult-support to independent activities: the student’s instructional level. It is important to note that this movement across the ZPD is affected by positive contexts and adult models. The change in instruction from whole group to small group instruction enforced that each student in the classroom worked with their ZPD in order to “build on what they already know, to learn what they need to know next, and to move forward” (Bear et al., 2011, p. 9).

As a result of changing instruction to be within each student’s ZPD, I believe that I caused cognitive change. As supported through research, I created and planned specific activities that targeted student’s instructional needs, while also providing guidance, thus ensuring to teach within each student’s ZPD. (Bruner, 1974). Student growth was fostered through the focus on student’s ZPD and through the establishment of small group instruction that targeted specific instructional needs. Therefore, the understanding of where each child is in their development and the planning of instruction that guides him or her to independence through carefully selected activities most adequately serves students and helps them progress more efficiently than whole group instruction.

In addition to focusing on student’s ZPD, the individual attention that students receive during small group instruction could have fostered improvement. As the teacher I felt that small group instruction provided me with more time to discuss and work with each student than did whole group instruction. This belief is supported by the video recordings and field notes. During each small group lesson I interacted individually with each student at least twice. This interaction ranged from a quick question asked by either myself or the student, watching the student sort a few words and asking them to reiterate the feature rule for the week, or to more in-depth teaching
of features. Additionally, when each student finished individually sorting their words I reviewed the categories with them, read through the words, then chose a random word and asked them to explain why the word was in the specific category. This individual attention not only helped me informally assess student’s knowledge, but may have reinforced the feature more intently than during whole group instruction. Not only did I enjoy the more individualized nature of small group instruction, but students also supported this feeling. On the post-study questionnaire Cutey wrote that her favorite part of word study was “with the teacher because we all get to spend time with her and talk.” Additionally, Gryffindor commented that her favorite part was “Fri small group teacher word study lesson because your group has time with your res.” Overall, both the students and the teacher found the more individualized attention to be enjoyable. Furthermore, this individualized attention probably caused students to be held more accountable, therefore they possibly learned the weekly features more effectively, and thus the increased achievement.

To support that the individualized attention provided in small group instruction most likely correlates with increased student achieve, research proves that whole group word study instruction does not meet the needs of all students (Morris, Blanton, Blanton, & Perney, 1995; Williams & Hufnagel, 2005). Since it is planned based on grade level expectations, whole group instruction is most beneficial for students with average literacy abilities (Morris et al., 1995; Williams & Hufnagel, 2005). While the use of whole group as a method of instruction is too difficult for low achievers because it is not well matched to their developmental level (Morris et al., 1995; Williams & Hufnagel, 2005), this study did not find that increases in achievement were related to specific developmental spelling stages, but improvements spanned the developmental spectrum. Therefore, a conclusion might be made that small group word study instruction benefits all students, not just the students of average literacy abilities. Perhaps this improvement
is due to the individualized nature that small group instruction provides that whole group instruction does not.

The third possible reason for an improvement in student achievement during small group instruction was the use of word sorting as an established routine. Each Friday students participated in a teacher-directed word sort to learn the feature they would study for the week. During this small group lesson each student cut and sorted their own set of words. Then, students repeated the word sort independently on Monday and wrote it in their notebook. In essence, all instruction built upon this word sort and the orthographic understandings, connections, and generalizations students made while performing the word sort. As Block reported in his written comments on the post-study questionnaire, his favorite part about word study was “word sorts because you could learn more” (personal communication, March, 19, 2012). Block’s comment supports the belief that word sorting impacted student learning significantly enough to help improve student achievement. From week one to week two, students on average improved their rate of completion of a repeated word sort. This increase in independence showed more confidence in word sorting abilities and could be caused by increased student understanding of routines or the generalization for the week. In addition, by the second week of the study, observations were made of students beginning to manipulate words into more than the specified categories. For example, as observed in video recordings and in field notes, during the teacher directed sort for the Fish group during the second week of the study, each word was displayed, read, and discussed by the teacher with the students. With each new word that was introduced, students started to guess how the words connected. Zaza stated that some words had double consonants in the middle, while Daniel noticed all of the words end in ‘r,’ shortly followed by Cutey noticing that each word ended in a vowel and a ‘r.’ While these guesses were not the exact
concepts taught for the week, students displayed critical thinking and analysis of words. It is important to recall that research explains that with word sorting, students must scrutinize words and compare and contrast the orthographic features to create generalizations about spelling (Bear et al., 2011; Invernizzi & Hayes, 2004). Therefore, word sorting is a critical part of word study and the progress of orthographic knowledge. While certain sorts, primarily alphabetic and pattern sorts (Bear et al., 2011) may seem easier to more developed spellers, they need to continue to be part of instruction.

As previously discussed, 12 students showed more improvement during small group word study instruction focused on developmental spelling. However, as Table 1 above also shows, four students made more gains during whole group instruction. Several factors need to be considered when evaluating this finding and each student’s data. After an analysis of each student’s achievement, possible reasons for this finding will be discussed: the theory of recursivity and behavior problems.

Albrea and Basketball showed more significant improvement following whole group instruction. However, while their total points on the ESI did not change after small group instruction, their spelling stage did change. Albrea improved from the middle letter name-alphabetic stage to the middle within word pattern stage, and Basketball improved from the early to middle within word pattern stage. In an analysis of each student’s feature guide, Albrea was found to have improved in the feature of short vowels, but regressed with long vowels. In addition, Basketball improved with blends, but regressed with long vowels. Both students showed accurate spellings for certain words on the February ESI that they then misspelled on the March ESI. While Albrea and Basketball’s scores remained the same, Miranda’s ESI score
decreased by 10 points, while her USI score improved by three total points. Nevertheless, Miranda similarly misspelled words in March that she had spelled correctly in February.

Despite the appearance of stagnancy or regression for Albre, Basketball, and Miranda, it is important to remember the theory behind word study and the recursivity of a child’s acquisition of oral language. As children encounter new rules about language, it may seem that they digress in their learning by focusing on this new rule and reverting to old habits, thus the appearance of no progress (Goodman, 2001). However, Kucer’s (2009) research shows that this is in fact a child’s way of reorganizing their knowledge structures. Children either have to assimilate (add) this new knowledge into their previous knowledge, or reconfigure their knowledge to accommodate it (Goodman, 2001; Kucer, 2009). As a child’s knowledge of language continues to grow, there is increasing activity of constructing knowledge and then reorganizing it (recursivity). Therefore, Albre, Basketball, and Miranda may be showing through their ESI results that the new instruction was difficult for them to fully assimilate into their current knowledge. Perhaps a continuation of small group instruction for an extended period of time would provide these students with the necessary time to reorganize their knowledge and accurately use the knowledge while spelling. Their ESI results do not necessarily mean that they did not understand the feature and the instruction, but perhaps they need more time for assimilation.

The fourth student to show more achievement during whole group instruction was Huey also declined in achievement on the ESI, but only by one point. Through an examination of the field notes taken during the study, Huey showed frustration, concern/worry, or anxiety during instruction 4 out of 12 days (he was absent for 1 day), as well as the final day during which the ESI was re-administered. His behavior made it difficult for him to complete activities. When
approached by the teacher for help, he often did not de-escalate to have a conversation or listen to the help. On the March ESI he misspelled three words that he had accurately spelled in February: ‘train’ ‘bottle,’ and ‘carries.’ He showed partial understanding of the features taught during small group instruction. During the first week he learned how to add –ed and –ing to verbs, and then when to spell with –er, -or, and –ar at the end of words. On the March ESI Huey accurately spelled three of the four words using the features –ed and –ing, and only one of the three words using the features –er, -or, and –ar. Huey was offered to take the ESI the next day when he had calmed down, but he refused. Perhaps Huey’s frustration displayed during the re-administration of the ESI caused him to not fully focus on his spelling. Additionally, perhaps the theory of recursivity (Goodman, 2001; Kucer, 2009) can also be applied to Huey’s assessment results. Unfortunately, no research was found specifically documenting how behavior affects student word study achievement. However, Bear et al. (2011) support the gradual implementation of small group word study instruction. The research discusses that teachers should establish and guide students through each daily routine, explicitly modeling and teaching each routine and its purpose (Bear et al., 2011; Invernizzi & Hayes, 2004). Huey relies on structure and extended time to complete activities. It may have been that the new routines established by the study were difficult for him to assimilate to in the amount of time expected. Therefore, as Bear et al. (2011) conclude, with more introduction to daily routines Huey could have been more successful because he would have been more confident and he could have focused more on what is truly important: the instruction and learning of orthographic features, not the process.

While the results of this study show that small group instruction was beneficial for the majority of the students and that they demonstrated understanding of the concepts taught, overall
students continued to exhibit a need for work on verbal specificity about word study generalizations. As Bear et al. (2011) discuss, “students will need to be shown how to think about words, how to reflect, and how to form generalizations that summarize their new learning” (p. 84). Through video recordings and field notes, students demonstrated difficulty expressing their thinking verbally. For example, during the introductory whole group lesson on words sorts, three students were called on to explain the rules of the sort, which were beginning consonant sounds. Each student provided generic answers that were not specific. One such response from Huey was: “There are groups of w’s, b’s, and d’s and stuff” (personal communication, February 29, 2012). Another example of student difficulties expressing generalizations verbally was during small group instruction in which the group was learning the rules associated with adding –ed and –ing to base words. After prompting to observe and discuss observations about the words, Block responded by saying “I notice that this one got double words…double…ummm…double consonants, and this has a –ch in it, and this got –ing in it” (personal communication, March 2, 2012). Both student responses demonstrate that the students understood the rule, but had difficulty verbalizing their thinking. As recorded in the field notes and by Bear et al. (2011), throughout the study I continued to model thinking aloud and guide students to be more specific in their verbal responses about word study generalizations. With such teacher modeling will come better student responses, and thus a deeper understanding of orthography.

**Improvements in Student Attitudes, Motivation, and Engagement**

An attributing factor to the increase in student achievement might be the improvement in student’s attitudes towards word study using small groups compared to whole group instruction. Presented in Table 3 is the average student ratings of whole group word study components.
Table 3  

*Pre-Study Study Questionnaire Responses to Opinions about Word Study Components*

<table>
<thead>
<tr>
<th></th>
<th>Class Average Score</th>
<th>Associated Adjective</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Friday Word Study Lesson</strong></td>
<td>3.375</td>
<td>Somewhat Like</td>
</tr>
<tr>
<td><strong>SMART Board Lessons</strong></td>
<td>4.75</td>
<td>Really Like</td>
</tr>
<tr>
<td><strong>Look, Say, Cover, Write, Check</strong></td>
<td>2.0625</td>
<td>Somewhat do not Like</td>
</tr>
<tr>
<td><strong>Making Connections</strong></td>
<td>2.875</td>
<td>Somewhat Like</td>
</tr>
<tr>
<td><strong>Games</strong></td>
<td>3.875</td>
<td>Like</td>
</tr>
<tr>
<td><strong>Test</strong></td>
<td>3.1875</td>
<td>Somewhat Like</td>
</tr>
<tr>
<td><strong>Spelling Contract</strong></td>
<td>2.9375</td>
<td>Somewhat Like</td>
</tr>
</tbody>
</table>

These ratings are taken from the questionnaires given to students before the study. It is clear from looking at the average values for each word study component in Table 3 above that during whole group instruction students only somewhat liked instruction. Students undoubtedly enjoyed SMART Board lessons since the average numerical value of this rating was close to the highest value of five. Additionally, students evidently did not like the whole group component of look, say, cover, write, check, as it received the lowest average value on the questionnaire. Overall, it seems that during whole group instruction students liked SMART Board lessons and games more than any other components.

Table 4 below displays the students’ attitudes toward various word study components during small group instruction. These ratings are taken from the questionnaires given to students
after the study. It is clear from looking at the average values for each word study component in Table 4 below compared to the average values for each component from Table 3 above that students clearly preferred the small group word study components more than the whole group components. The components of word sorts, writing word sorts, and word hunts used in small group instruction were relatively new for the students, but they still liked them more than the whole group components of look, say, cover, write, check, and making connections, as can be seen by the differences in average scores. SMART Board lessons were not used during the study and therefore could not be rated.

Table 4

Post-Study Study Questionnaire Responses to Opinions about Word Study Components

<table>
<thead>
<tr>
<th>Class Average Score (scale of 1-5)</th>
<th>Associated Adjective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Friday Small Group Lesson</td>
<td></td>
</tr>
<tr>
<td>Word Sorts</td>
<td>3.375</td>
</tr>
<tr>
<td>Writing Word Sorts</td>
<td>3.333</td>
</tr>
<tr>
<td>Word Hunts</td>
<td>3.1875</td>
</tr>
<tr>
<td>Games</td>
<td>4.4375</td>
</tr>
<tr>
<td>Test</td>
<td>3.0625</td>
</tr>
<tr>
<td>Spelling Contract</td>
<td>3.0625</td>
</tr>
</tbody>
</table>

This study focused on the impact small group instruction had on student achievement during word study. The conclusion that small group instruction is more effective than whole group instruction is not only based on assessment data from the spelling inventories, as well as the various components of instruction, but it is also supported by student’s personal opinions. As
shown in Table 4 above, students rated small group lessons with an average of over four, meaning they liked it. Several students supported this opinion with written comments on the questionnaire. Harry wrote that his favorite part of word study was “Friday small groups because you really get the main idea of the rule” (personal communication, March 19, 2012). Cutey supported the same opinion by writing that her favorite part was “with teacher because we all get to spend time with her and talk” (personal communication, March 19, 2012). These two comments demonstrate that students know how they learn best and what works to help them learn; what students want is time with their teacher. The use of small groups during word study makes differentiation possible so that teachers can fully support students developmentally.

Students showed through their actions as observed in the study’s field notes, as well as through the previously discussed comments that they prefer working in small groups with the teacher. Therefore, the students’ positive attitudes towards small group instruction might lead them to be more motivated and engaged in their learning, thus improving their achievement. No research was found that studied discusses student engagement and motivation in small groups as a factor of student improvement.

Parents also submitted questionnaires regarding their opinions about the small group word study instruction. Written comments were extremely positive towards the new instruction. One parent wrote that “[Klaus] likes the small groups. He can talk more freely compared to raising his hands in large groups. The word sorting, games, etc are fun + motivating” (personal communication, March 19, 2012). Another parent supported this opinion by stating “I like that it is working on the areas that [Moe] is specifically working in” (personal communication, March 19, 2012). Overall, parents supported the use of small groups and saw the immediate effect it had on student achievement, motivation, and engagement. While research found that teachers were
concerned that a change in word study instruction from the traditional methods would upset parents and that they thought parents would find the instruction easy and less meaningful (Bloodgood & Pacifici, 2004), this study proved the opposite. In general parents embraced the new instructional method and acknowledged the benefits of following a developmental approach to word study.

Word study games were the highest rated component of small group word study instruction as shown in Table 4 above. This rating was higher than the rating given to word study games during whole group instruction as shown in Table 3 above. Observations from video recordings and in field notes from this study support the student’s opinions of word study games. During word study games students followed directions, started playing almost immediately, shared, and worked together to understand their rule in an interactive manner. While students rated word study games highly, meaning they liked them, students had to be reminded of behaviors during this word study component. As supported in the field notes, the oyster group often had to be reminded to follow the rules, focus, and stop fooling around. Furthermore, during the second week of the study, students were so engaged in and excited about the games in their small groups that the noise level in the room rose drastically. Even after several reminders and peer comments about inabilities to focus, noise level remained louder. While students need to be respectful of noise levels and follow classroom rules, closer observation of student engagement found them enjoying the game and practicing spelling at the same time. The field notes support the findings of Bear et al. (2011) that “games appeal to children, encouraging them to practice in more depth and apply what they have learned in new situations” (p. 73). Therefore, even though some students were misbehaving, their engagement and motivation to play games to learn their generalizations for the week may have helped to improve their overall achievement.
On average, students liked every component more during small group than whole group instruction, aside from the test. Perhaps the decrease in positive attitude towards the test could be the change in test format. During whole group instruction, students were only tested on the words they were assigned for the week. However, during small group instruction students were tested on 10 of the words they studied for the week and five additional words that followed the same generalizations, but they did not study for the week. As Bear et al. (2011) argue, the use of bonus words on a test will emphasize the use of the generalization and its applicability, rather than just rote memorization of a list of words. Aside from the numerical value demonstrating student’s negative attitude towards the new word study test, students were asked on the questionnaire to comment on their least favorite part of word study. Lina wrote that her least favorite part was the “test because it’s sometimes a challenge,” as did Klaus, writing the “test because it’s really hard” (personal communication, March 19, 2012). Part of this frustration may lie in the fact that students did not understand their concept, felt unconfident about words they did not study, or perhaps the newness of this component as there was a lack of repetitiveness in the new routines because of time constraints. While weekly tests will most likely continue since they hold students accountable for their words and provide a grade for report card purposes, student attitudes towards the tests could be taken into consideration. Despite student opinions, one parent commented on the questionnaire about their positive outlook on the new testing format: “I appreciate the students being tested on words they didn’t learn to see if they understand and can apply the rule” (personal communication, March 19, 2012). This parent supports the notion that the use of bonus words confirms student’s understandings of generalizations to new words (Bear et al., 2011).
While the average class values in Table 4 above support that students somewhat liked spelling contracts and word hunts, some written comments on the questionnaire and observations in field notes differ from the numerical value. Spelling contracts have been used in this classroom from the beginning of the year. Comparing the students’ attitudes towards spelling contracts in Tables 3 and 4 above shows little change in opinion despite the change in instruction. For instance, before small group instruction, Miranda commented that her least favorite part of word study was the “spelling contract because it takes forever to do and if you don’t finish you stay in for lunch” (personal communication, February 16, 2012). Miranda confirmed these same feelings by writing on the follow-up questionnaire: “spelling contract because some times I can’t do work I want to do and have to hand it in every Thursday” (personal communication, March 19, 2012). James supports Miranda’s opinion by stating that his least favorite part was “spelling contract because it’s boring and it takes too long” (personal communication, March 19, 2012). As an educator I believe that homework supports the work in school and is an extension of student’s learning. Through a spelling contract students practice, reinforce, and connect their learning. The student comments previously discussed most likely due to the fact that students do not like that the assignment lasts for a week, or that they find the activities boring and meaningless. Despite the mixed student opinions, as Bear et al., (2011) explains, spelling homework is at the discretion of the teacher.

Word hunts were one of the lowest rated components of the small group word study instruction according to Table 4 above. Most likely this opinion is because as seen in observations of student behavior during video recordings and field notes, students often displayed frustration with word hunts. Even by the second week, after two mini-lessons, discussions, and practice hunting for words, 12 students found 10 or less words during a 15
minute search through independent reading books. As the field notes report, students complained several times during the center, constantly asked for help, and showed visual signs of frustration and confusion. Even by the end of the second week’s lesson, students still showed difficulty skimming for words and understanding what they were searching for. The crab group showed the most frustration in video recordings because their rules were more difficult to find in their independent reading books (prefixes and suffixes). Students confirmed their negative attitudes towards word hunts through their written comments on the questionnaire. Curly wrote “my least favorite part of word study are the word hunts because I can never find my rule” (personal communication, March 19, 2012), which was also supported by Daniel who dislikes “word hunts because I get frestiarted” (personal communication, March 19, 2012) This overall frustration among students toward word hunts is most likely due to the students lack of ability to find words within their independent reading books. As seen on video recordings and in field notes, each week several students struggled with word hunts and showed signs of frustration through their body language and verbal responses. This inability to find words could have been because they did not fully understand the feature they were hunting for, or the concept of skimming. For whatever reasons, Bear et al. (2011) support the use of word hunts since students are forced to recognize connections between words they are studying. Word hunts can be conducted in pairs, groups, or as individuals (Bear et al., 2011). While students’ attitude, motivation, and engagement in word hunts was noticeably less than the other word study components, the students’ efforts to make connections between words may have contributed to their improvement.

In conclusion, this study proved that small group word study instruction based on a developmental spelling approach impacted student achievement more than whole group
instruction. This improvement is most likely due to individualized attention from the teacher, instruction within each student’s ZPD, and from the use of word sorts. Overall, student and parent attitudes towards word study increased. Additionally, students were more motivated and engaged to participate in small group instruction, as well as the other word study components. Continuation of this organizational structure would highly benefit students and help them to progress even further with their orthographic knowledge.

**Implications**

This study proves that word study instruction is most effective in small groups focused on developmental spelling progress instead of in a whole group setting. This small group instruction is not only applicable in the classroom, but can be used in other educational settings such as intervention groups (Invernizzi & Hayes, 2004; Kirk & Gillon, 2009; Williams & Lundstrom, 2007). Based upon the findings of this study, teachers should implement small group word study instruction while keeping in mind specific implications dealing with planning and implementation.

In order to implement small group instruction, teachers must first determine each student’s orthographic knowledge. In the case of word study, a spelling inventory will assess a student’s orthographic knowledge (Invernizzi & Hayes, 2004). Bear et al. (2011) spelling inventories or Ganske’s (1999) Developmental Spelling Analysis (DSA) are two similar assessments that have been found to be reliable and valid in identifying a child’s developmental stage of spelling, as well as the features the child knows (independent level), uses but confuses (instructional level), and does not know (frustration level). In this study the Elementary Spelling Inventory (ESI) created by Bear et al. (2011) was used to assess student’s orthographic knowledge.
Small groups should then be formed based on specific student needs as analyzed through the word study assessment (Henderson & Templeton, 1986). Groups should be homogenous, mostly including students within a spelling stage since they need instruction in the same features. However, as discussed by Ness (2009), it was difficult to create such groups because the students in one classroom can span all spelling stages. In this study, students spanned all stages except the emergent spelling stage. Therefore, students were mostly placed in groups at their instructional level. Some students were placed one stage ahead or behind because of the limitation of teacher time to plan for more than three or four groups. Nevertheless, the final groupings should be determined by the teacher using their professional knowledge of the students and of word study.

As Bear et al. (2011) explain, to provide appropriate small group developmental word study instruction, teachers must establish clear routines. There should be time each day dedicated to word study, with the introductory lesson lasting longer than subsequent activities throughout the week. While Bear et al. (2011) suggest sample weekly instructional plans, the daily routines are at the discretion of the teacher. In this study, the first day of the word study rotation was dedicated to small group instruction of the weekly feature. The second day was independent work of a repeated word sort and writing. The third day involved a word hunt, with the following day being a word study game. The fifth and final day was the assessment. While Bear et al. (2011) mostly provide plans from Monday through Friday, this study’s weekly plan went from Friday to the following Thursday. Again, it is up to the discretion of the teacher to determine the weekly instructional plan. Whatever the teacher decides, the routines need to be established and clearly taught to the students.

The implementation of small group word study instruction should be a gradual process. While Bear et al. (2011) suggest that a teacher starts with a few weeks of teacher-directed sorts
in which students become familiar with basic routines, and where the teacher models and provides full support, this study was not able to dedicate that amount of time. Two days before small group instruction were dedicated to modeling and guided practice of word sorts. This time seemed sufficient for students to learn and demonstrate understanding of new routines and activities. As noted in the field notes, students seemed hesitant about word sorting during the introductory days. Even during the first week of small group instruction, students asked several questions each day to verify the task and ensure they would accomplish what was being asked. They seemed more focused on the process than the learning. However, during the second week of instruction students did not ask as many questions and were much more independent at the new routines. Therefore, for full implementation of small group word study instruction, especially spanning the whole school year, teachers should dedicate two to three weeks to establishing routines and explicit teaching and modeling of this routine (Bear et al., 2011; Invernizzi & Hayes, 2004). Teachers should guide students through each daily routine, making sure students understand how the routine works, as well as the purposes. Once students are more confident with the daily activities, they can focus more on what is truly important: the instruction and learning of orthographic features, not the process.

Aside from establishing and modeling routines, teachers need to determine specific features each small group will study on a weekly basis. After the feature is determined, teachers need to prepare the word sorts for small group instruction. Word sorting is extremely important to the small group instruction design. Students are required to sort their words on the first two days of instruction, then continue to use the words throughout the week. Word sorting is used because it requires students to understand, manipulate, synthesize, and discuss words, while also comparing and contrasting the orthographic features of words to create generalizations about
spelling (Bear et al., 2011; Invernizzi & Hayes, 2004). The use of word sorting was a new routine and activity for the students in this study; however, it was determined through field notes and student questionnaires that they liked sorting words and found it helpful towards their understanding. Consequently, teachers should use word sorting as part of word study instruction as it is highly beneficial to student’s cognitive development and orthographic knowledge, as well as being a routine that student’s generally like doing.

Bear et al. (2011) is an important resource when selecting words for weekly word sorts. In addition, the professional development tool kit that is featured with Bear et al. (2011) provide teachers with sample word sorts, cards, games, and more. For this study I created my own word sort card template and used Bear et al. (2011) to select words for each group. However, I determined after instruction that the cards were too small. From this study it was determined that when teachers create word sort cards they should ensure that the cards are about the size of a deck of cards so that students can grip them better, see the words, and write on the cards.

The first day of the weekly routine is teacher instruction within small groups. In this study students came to a small reading table and were led in a teacher-directed word sort to develop understanding of the orthographic feature they were to study for the week. However, during teacher modeling of the word sort on the first day of instruction it was difficult for students to see the words on the table. Therefore, when modeling a word sort teachers should either make sure the cards are large enough for all students to see, or use a pocket chart or white board behind the table so that all students may see the word sort as it is being taught and discussed. Additionally, a variety of word sorts should be used in small group instruction. This study only focused on teacher-directed sorts since the time span did not allow students to become completely comfortable with the routines. However, teachers should use student-centered sorts
as students become more confident in their sorting abilities (Bear et al., 2011). Aside from determining how to introduce a sort (teacher-directed or student-focused), this study incorporated the three basic types of word sorts: sound, pattern, and meaning sorts (Bear et al., 2011). Teachers should strive to incorporate all types of sorts within each small group. In addition, Zucker and Invernizzi (2008) propose the use of eSorts as an extension of differentiated small group instruction. While this method was not used in this study, research proves that eSorts engage and motivate students to sort words and apply their orthographic knowledge (Zucker & Invernizzi, 2008).

The most critical and important implication of this study was that the teacher is the key to success. Research proves that the instructional decisions of a teacher affect student achievement (Bear & Templeton, 1998; Carpenter et al., 2009). As this study proves, the instructional decision I made to change from whole group to differentiated small group instruction in word study caused more than half of the students to progress more significantly. Therefore, teachers should consider differentiated small groups as a powerful means to focus on student needs and promote student progress.

However, teacher education is fundamental in the successful implementation of small group word study instruction (Bloodgood & Pacifici, 2004; Carpenter et al., 2009; Ganske, 1999). To prepare for small group instruction I, as the teacher, read widely on the specific orthographic features I was to teach. However, I still felt unprepared at times when students asked questions during instruction that I did not know the answers to. I had to frequently refer to Bear et al. (2011) to verify my teaching. In one instance I taught a feature during small group, then later had to correct myself, which confused the students. Research shows that teachers believe in a developmental spelling approach, but do not feel their professional knowledge is
sufficient (Bloodgood & Pacific, 2004; Carpenter et al., 2009; Graham et al., 2008). I experienced this struggle and fear and therefore propose that if small group instruction in word study is to be effective, professional development must be offered to teachers. Administrators must support and provide continuous professional development in word study. Furthermore, teachers should be given time to plan for instruction and collaborate with colleagues. It was difficult in this study to be the only teacher following this instructional method. Additionally, it is time consuming to plan for multiple small groups each studying different orthographic features. Therefore, having several teachers working together and being able to support and assist each other would be beneficial to the success of small group instruction. By having teams of colleagues working together, systematic word study curriculum can be developed which would help in weekly and daily planning (Bloodgood & Pacifici, 2004). Teaming colleagues would also help small group instruction be successful because colleagues could collaborate to teach and learn various orthographic features. Overall, appropriate professional development, administrative support, time, and teacher collaboration will help provide a developmental word study curriculum with the fundamentals needed to help students make significant gains (Carpenter et al., 2009).

**Conclusions**

This study sought to discover if small group differentiated word study instruction impacted student achievement more than whole group instruction. Based on the sociocultural theory, it is necessary for teachers to understand and determine that student’s needs in word study differ based on the student’s literate background, cultural background, and personal experiences. Research proves that student’s orthographic knowledge develops through specific spelling stages. Within one classroom students can span all five spelling stages. Thus, research
suggests that teachers should use a developmental word study approach in instruction. This study found that student achievement rose more significantly when students were grouped based on their orthographic knowledge and needs compared to whole group instruction. This rise in student achievement was due to the fact that routines were established and modeled, word sorts were implemented which caused students to take a more active role in analyzing orthographic features, and students liked the various routines of small group word study instruction more than the routines of whole group instruction. This study supports the use of small group differentiated word study instruction in classrooms, while making sure teachers are supported through professional development, time to plan, and collaboration.

This study answered the research question and proved that small group word study instruction is extremely effective at promoting student achievement. However, not all students showed growth. If this study could be done again, it would span two to three months to monitor student achievement more closely and see if those seven students who did not make gains in this study would make gains after repeating the routines and fully assimilating the new orthographic knowledge. With this increased time frame, students could also be shifted between groups to better reflect the flexible nature of small group instruction as recommended by Invernizzi and Hayes (2004). As student understandings change, so could the groupings. Additionally, I had never received professional development in orthographic features and how to do small group instruction in word study. Therefore, perhaps with a more substantial professional knowledge the instruction would have been more accurate.

Research shows a synchrony between reading, writing, and spelling (Bear & Templeton, 1998; Bear et al., 2011; Carpenter et al., 2009). Further research should be done in how student’s transfer orthographic features to reading and writing. In addition, research should look into how
teacher’s can facilitate the transfer and connection between word study and reading and writing. For instance, a future research question might be: “what strategies are best for integrating word study, reading, and writing instruction?” With a language rich environment, teachers can most adequately integrate reading, writing, and spelling (Gentry, 1981) to facilitate student achievement.

In conclusion, classroom instructional practices need to match the developmental spelling research in order to best meet the needs of all children. Through the use of assessment, teachers can analyze student developmental spelling stage and the orthographic features students need to learn. Based on assessment results students should be placed in homogenous small groups and receive instruction based on specific needs. By providing instruction in small groups that focus on student needs rather than instructing in a whole group setting, students make more progress and their orthographic knowledge flourishes.
References


Beckham-Hungler, D., & Williams, C. (2003). Teaching words that students misspell: Spelling


Reading Teacher, 61(8), 654-658.
Appendix A

Emily Pettit
St. John Fisher College
Initial Student Questionnaire

Name (Optional): ___________________________ Date: _____________________

Directions: Please fill out this questionnaire as it will help with my research. Please be as honest as you can be.

1. Put an X in the correct box on the chart according to your opinion about the different parts of Word Study.

<table>
<thead>
<tr>
<th></th>
<th>Really Like 5</th>
<th>Like 4</th>
<th>Somewhat Like 3</th>
<th>Somewhat Do Not Like 2</th>
<th>Do Not Like 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Friday Word Study Lesson</td>
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<tr>
<td>Spelling Contract</td>
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<tr>
<td>Look, Say, Cover, Write, Check</td>
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<tr>
<td>Making Connections</td>
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<td>Test</td>
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<tr>
<td>Word Study Games</td>
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<td>Word Memory</td>
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<td>Smartboard Lessons</td>
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<td>Word Sorts</td>
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<tr>
<td>Word Hunts</td>
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</tbody>
</table>

2. What is your favorite part of Word Study and why?
3. What is your least favorite part of Word Study and why?

4. Put an X in the correct box on the chart according to your opinion about the different parts of Word Study.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Really Helpful (5)</th>
<th>Helpful (4)</th>
<th>Somewhat Helpful (3)</th>
<th>Somewhat Unhelpful (2)</th>
<th>Unhelpful (1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Friday Word Study Lesson</td>
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<tr>
<td>Spelling Contract</td>
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<tr>
<td>Look, Say, Cover, Write, Check</td>
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<td>Making Connections</td>
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<td>Word Study Games</td>
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<td>Word Memory</td>
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<tr>
<td>Smartboard Lessons</td>
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<tr>
<td>Word Hunts</td>
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</tbody>
</table>

5. If you could change anything about Word Study, what would it be?
Appendix B

Emily Pettit
St. John Fisher College
Initial Parental Questionnaire

Name (Optional): ___________________________ Date: _________________

Directions: Please fill out this questionnaire as it will help with research. Please be as honest as you can be.

1. How satisfied are you with the Word Study instruction in your child’s fourth grade classroom?

   Not satisfied       Somewhat satisfied       Very satisfied
   1                   2                      3                      4                      5

   Please support your opinion with comments:

2. What do you think about your child’s weekly Spelling Contract homework?

   Not satisfied       Somewhat satisfied       Very satisfied
   1                   2                      3                      4                      5

   Please support your opinion with comments:
3. How would you describe your child’s motivation and engagement with Word Study?

   Not motivated or engaged  Somewhat motivated or engaged  Very motivated or engaged

   1  2  3  4  5

Please support your opinion with comments:

4. How do you help your child at home with Word Study?
## Appendix C

<table>
<thead>
<tr>
<th>Student</th>
<th>Words Spelled Correctly</th>
<th>Words Spelled Correctly: 3rd Grade</th>
<th>Words Spelled Correctly: 4th Grade</th>
<th>Words Spelled Correctly: 5th Grade</th>
<th>Words Spelled Correctly: Total</th>
<th>Words Spelled Correctly: 3rd Grade and Above</th>
<th>Words Spelled Correctly: 4th Grade and Above</th>
<th>Words Spelled Correctly: 5th Grade and Above</th>
<th>Words Spelled Correctly: Total and Above</th>
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</tr>
</tbody>
</table>

(continued table with data and column headers)
Appendix E

Emily Pettit
St. John Fisher College
Final Student Questionnaire

Name (Optional): ____________________________ Date: ____________________________

Directions: Please fill out this questionnaire as it will help with my research. Please be as honest as you can be.

1. Put an X in the correct box on the chart according to your opinion about the different parts of Word Study.

<table>
<thead>
<tr>
<th></th>
<th>Really Like 5</th>
<th>Like 4</th>
<th>Somewhat Like 3</th>
<th>Somewhat Do Not Like 2</th>
<th>Do Not Like 1</th>
</tr>
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<tr>
<td>Friday Small Group Teacher Word Study Lesson</td>
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<tr>
<td>Spelling Contract</td>
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<tr>
<td>Word Sorts</td>
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<td>Writing your Word Sort</td>
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<td>Word Hunts</td>
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<tr>
<td>Word Study Games</td>
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<tr>
<td>Test</td>
<td></td>
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</tbody>
</table>

2. What is your favorite part of Word Study and why?

3. What is your least favorite part of Word Study and why?
4. Put an X in the correct box on the chart according to your opinion about the different parts of Word Study.

<table>
<thead>
<tr>
<th></th>
<th>Really Helpful 5</th>
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<th>Somewhat Unhelpful 2</th>
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<td>Word Study Games</td>
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<td>Test</td>
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</tbody>
</table>

5. If you could change anything about Word Study, what would it be?
Appendix F

Emily Pettit
St. John Fisher College
Final Parental Questionnaire

Name (Optional): ____________________________ Date: ______________________

Directions: Please fill out this questionnaire as it will help with research. Please be as honest as you can be.

1. How satisfied are you with the new Word Study instruction in your child’s fourth grade classroom? (The new instruction included small group lessons, word sorting, word hunting, and games).

   Not satisfied  Somewhat satisfied  Very satisfied
   1             2             3             4             5

   Please support your opinion with comments:

2. What do you think about your child’s new weekly Spelling Contract homework that included word sorting and other activities?

   Not satisfied  Somewhat satisfied  Very satisfied
   1             2             3             4             5

   Please support your opinion with comments:
3. How would you describe your child’s motivation and engagement with Word Study?

Not motivated or engaged  Somewhat motivated or engaged  Very motivated or engaged

1  2  3  4  5

Please support your opinion with comments:

4. How do you help your child at home with Word Study?