Summer 8-10-2016

Using Evidence-based Spelling instruction to Support Elementary Students: A Self-Study

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USING EVIDENCE-BASED SPELLING INSTRUCTION TO SUPPORT ELEMENTARY STUDENTS: A SELF-STUDY

by

Brigid Berger

A capstone submitted in partial fulfillment of the requirements for the degree of Masters of Arts in Literacy Education

Hamline University
Saint Paul, Minnesota
August 2016

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Peer Reviewer: Annaka Larson
ACKNOWLEDGEMENTS

Countless thanks to my husband, Aaron, for all his support, encouragement, and patience and my amazing team who helped me through the process of writing the longest paper of my life.
'Cord' is different from 'word';
c - o - w is 'cow' but l - o - w is 'low';
'Shoe' is never rhymed with 'foe'.
Think of 'hose' and 'whose' and 'lose',
And think of 'goose' and yet of 'loose',
Think of 'comb' and 'tomb' and 'bomb';
'Doll' and 'roll' and 'home' and 'some';
And since 'pay' is rhymed with 'say',
Why not 'paid' with 'said', I pray?
We have 'blood' and 'food' and 'good',
Wherefore 'done' and 'gone' and 'lone'?  
Is there any reason known?
And, in short, it seems to me,
Sounds and letters disagree.

Author Unknown, found in Resource Materials for Teaching Spelling, 1968

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CHAPTER ONE

Introduction

*Through, trough, though*: these three words embody the inconsistencies of spelling in the English language. With roots in German, French, Latin and Greek, our language is an amalgamation of pronunciation and phonetic rules. Learning to spell is tricky business, and teaching students how to spell is no easier. The diversity of programs and products designed to help teach spelling often serve only to further confuse the issue - how do we best teach spelling? Spelling instruction varies widely from school to school, and even from teacher to teacher. Textbook-generated lists, leveled spelling groups, and content area spelling words are all models commonly used, but which create the most confident, competent spellers?

Spelling development is a complicated topic to unpack because it is intertwined with other areas of literacy, such as decoding, phonemic awareness and phonetic skills, vocabulary and writing. It is a subject I have struggled with professionally for the ten years I have been teaching. Because I myself am not a confident speller, it is important to me that I use the most effective methods available to support my students. This has led me to my research question: *How can teachers use research-based strategies to support elementary students as they develop spelling skills?*
Statement of Significance

Spelling is a subject that I have strong personal feelings about. I am neither a competent nor a confident speller. Although an avid reader, I never mastered the secret code that seemed to come so naturally to many of my peers on those awful Friday spelling tests. Tears were involved during studying. The shame of my consistent failure on those tests left me feeling stigmatized.

My experiences are all too common. In fact, most people describe their ability to spell as something that comes naturally—either you have it or you do not. The ‘have-nots,’ like me, have memories so similar that they are almost stereotypical. Spelling bees which were supposed to be fun, instead caused me intense anxiety. Despite studying, Friday tests came back covered in red corrections. When writing an essay, I needed to downgrade stronger words to those I could spell easily. Spell-check functions on computers have gone a long way to mask the problem, but I still feel embarrassed about my inability to spell bigger words.

Now that I am a teacher, I realize that teaching how to spell is just as hard, if not harder, than learning it. The textbook my school uses provides weekly spelling lists, but has little additional support for teachers. Because it is not explicitly stated, I had to reverse engineer the spelling rules that each list teaches, only to be frustrated when words on one list break the rules taught by another list. I try to explain the seemingly contradictory complexities of spelling rules. We practice through the week as I watch students struggle with odd words like ‘cork’ and ‘sow,’ which never come up in their everyday discourse. After the Friday tests, I notice that some students still spell words from our lists incorrectly in their writing, despite
perfect test scores. All of this frustrates my students and leaves me wondering if I am having any effect at all.

I was spurred to reflect on this even more when I joined a committee charged with finding a new textbook series for my school. While serving on the committee and collecting my colleagues’ opinions about what they wanted in new teaching materials, I realized that teachers were dissatisfied with the traditional approach to spelling, but were unsure of better options. Without knowledge of research to support one program over another, progress in selecting a new set of materials ground to a halt. In the end, a majority of teachers opted to purchase a new basal series that proudly touts a strong base in research. However, it still uses the traditional weekly spelling list.

Although teachers realize that the traditional method of spelling instruction is not working for every student, without a better approach, we fall back into the traditional methods. In my school, I see teachers use a variety of practices to teach spelling: copy the words three times, write them in sand, sort them into groups, use them in sentences, find them in a word search, and complete workbook pages. I wonder which of these methods are supported by research, and which are ineffective.

These personal and professional experiences piqued my interest in the research on spelling development and instruction. I am not the only teacher who is unsatisfied with my current method of teaching spelling. Therefore, I wonder: How can teachers use research-based strategies to support elementary students as they develop spelling skills?
Rationale

I am keenly aware of how my own experiences in elementary school shaped my opinion of myself as a learner when I grade the weekly spelling tests. Every week, for the past ten years of my career, the same pattern plays out: several students pass the test with ease (in fact, they spelled all the words right on Monday’s pre-test), most students pass with only an error or two, and the same few students miss many of the words. I wonder how, after a week of drilling and word work, they can be so unaware of the pattern that is obvious to their peers. I wonder why I, an avid reader with a large vocabulary, was also unable to internalize those spelling rules and patterns.

Einstein defined insanity as doing the same thing over and over again and expecting different results. By his definition, the most common approach to teaching spelling is not only ineffective, it is crazy. It does not offer enough support to students who struggle, and fails to challenge students who excel. Because spelling skills are interwoven with writing and reading, this important part of the literacy puzzle deserves special focus.

The search for better strategies for spelling instruction is important in the context of current education debate. The problem cannot be addressed without including two issues prominent in the field: differentiation and evidence-based practices. In this era of accountability, teachers are being pushed to ensure that students are being taught at their level. ‘One-size-fits-all’ has no place in today’s classroom, so it is time to take a critical look at weekly spelling lists. When determining what strategies are most effective, only those backed by research
should be considered. The move towards evidence-based teaching practices and the push for differentiation are important components to consider as I look to answer: 

*How can teachers use research-based strategies to support elementary students as they develop spelling skills?*

**Conclusion**

Both personal and professional struggles with spelling instruction have led me to my research question. My difficult experiences with learning to spell in elementary school have given me insight into my own students who struggle. I can see that my current practices are not meeting the developmental needs of all my students, and I want to improve. I will look to current research for guidance and collect my own data to address the question: *How can teachers use research-based strategies to support elementary students as they develop spelling skills?*

In Chapter Two, I will provide a review of current and seminal spelling research. This provides a foundation for my own research and analysis, presented in Chapters Three and Four. In Chapter Five, I will address lingering questions and identify areas for further study, realizing that this particular question is only the beginning of my investigation and growth.
CHAPTER TWO

Literature Review

Introduction

Spelling development is an educational topic that raises strong feelings and memories in many people. I have my own painful memories of spelling failure in elementary school. It is often presented as an innate ability - either you can or you cannot- and schools are doing little to convince their students otherwise. Despite teachers’ frustration with ineffective methods, and decades of research and study, many schools continue to teach spelling as it was taught fifty years ago.

The public at large often bemoans the deterioration of children’s spelling, blaming technology, teachers and the general decline of our society. Almost two decades ago, Templeton and Morris (1999) mused that “[s]pelling is so visible, so obvious, that it often assumes the role of proxy for literacy and in that role is bound to generate controversy.” However, it is a misunderstood subject and most teachers receive scant guidance in best practices. Perhaps no other subject is as mistreated as spelling. Here, parental opinion strongly comes into play: in a quickly changing educational atmosphere, weekly tests are one thing they remember and relate to. There is often strong support for traditional methods, and a high demand for proper spelling in student work. With so much pressure and so little guidance, teachers
struggle to make sound instructional choices based in research. Because the complexity of this issue has intrigued and frustrated me throughout my career, I seek to answer, *How can teachers use research-based strategies to support elementary students as they develop spelling skills?*

To better understand my question, I researched many aspects of spelling, the results of which are shared in this chapter. I will begin by briefly providing some background on how our spelling system works and historic ways that spelling has been taught. I will then explain the theory of developmental stages of spelling. Finally, I will describe some research-based strategies for the classroom and differentiate between effective and ineffective practices. This overview of the literature will provide a backdrop for the project I will outline in Chapters Three and Four.

**The Orthographic System**

The term “orthographic” refers to a language’s connection between written letters and sounds. Consisting of 26 letters and at least 44 distinct sounds, Shemesh and Waller (2000) sardonically point out that English orthographic system has either too few letters or too many sounds. This complexity is rooted in the evolution of our language. Hayes, Treiman and Kessler (2006) explain that as time passes and a language evolves, it often grows less and less consistent. Although the language may have been governed by strict letter-sound correspondence at some point, changes in pronunciation over time will cause a schism between the written and spoken forms. Because written forms of language tend to be more static than spoken
forms, spelling patterns may reflect old and outdated pronunciations that will confuse the modern reader.

To further confuse the matter, Shemesh and Waller explain (2000), each group of people who invaded or settled in Britain left their mark linguistically and caused variation in spelling patterns: Celts and Romans, missionaries educating in Greek and Latin, Jutes and Saxons with their Germanic dialects, Vikings and French-speaking Normans. They point out that, over time, the pronunciation of many words changed, but the graphemes (the letters representing sounds) froze, leaving words whose spelling and pronunciation appear to be disconnected. Another contributing factor they cite is that few people were able to read or write during the evolution of the modern English language, thus no consensus on “proper spelling” emerged until recently.

The English language, with its complexity molded over centuries by many other tongues, has garnered a reputation for being nonsensical, lacking rules, or perhaps having no unifying structure. This is not true. First, Tempelton and Morris (1999) point out that the English language does have a strong alphabetic correspondence, observed in short vowel words such as *scrap* and *mop*. They go on to explain that the unifying structure of the language operates not at the letter level, but on and between syllables. Recall the alphabetically aligned word *scrap*. To signal the change from a short to long vowel sound, a final *e* is used: scrape. The CVCe pattern does not have a one-to-one letter spelling, but within the syllable, one can find a reliable pattern. In other words, while there may be variance in sound-letter
correspondence (for example, vowel sounds), there are reliable spelling patterns for syllables.

Johnston (2000) gives a fantastic (and brief) introduction to the various “markers” used in English, of which “silent e” is just one. She explains that there are more vowel sounds than letters, so different markers are used to indicate exactly which sound the vowel makes. These markers give the impression that spelling is unpredictable- why is a final /c/ sound spelled with a –ck in back, but a –k in bake, for example. With an understanding of these markers (-ck for short vowels, -k for long vowels, in my example), one can notice and use predictable patterns directing spelling (short vowels- back, duck, sick; long vowels- like, bake, joke). Johnson concludes, “There is good evidence, however, that capable spellers respond to patterns rather than rules, and these patterns more accurately capture the complexity of English,” (2000, p. 377).

Claiming that the English language is chaotic and inscrutable shows what Tempelton and Morris call an “alphabetic bias” - that letters can make different sounds does not mean that there are no rules governing spelling and pronunciation. What’s more, as research done in the 1960s demonstrated, those who understand how the patterns of English words work are significantly more likely to choose a correct spelling because they have more information driving their decision (Templeton & Morris, 1999; Johnston, 2000).

Because of the English language’s many historical influences, there is a balance between phonetic information (the letters and sounds of a word) and semantic information (the meaning of a word); although the pronunciation and
spellings of different words are not always the same, words with the same meaning root are consistent (Templeton & Morris, 1999). Languages are inherently complex, as Shemesh and Waller (2000) point out, involving sounds, letters and ideas.

Whether reading or writing, we move through three layers of linguistic information: alphabetic, pattern and meaning (Bear & Templeton, 1998; Templeton & Morris, 1999). These layers give a broad overview of how our orthographic system operates, illustrated in Fig. 1. The alphabetic layer straightforwardly describes letter-to-sound correspondence and left-to-right orientation.

The pattern layer moves into more complex groupings of letters, such as long vowels, where spelling does not always move left-to-right. In vowel diphthongs for example (ai, ou, ea), the second vowel changes the sound of the preceding letter, read from right to left. More advanced patterns are found at the syllable level. Although there are more than two types of syllables, the “open” and “closed” variety are illustrative examples. Open syllables end with a vowel: the “re” in resist and relax are open syllables. Closed syllables end with a consonant: hap-pen, sub-mit, in-sert. Students learn the vowel pattern for these syllables: open syllables have long vowels and closed syllables have short vowels.

The meaning layer focuses more on base words, establishing that spelling remains constant with meaning, even if pronunciation changes. Words with the same root are connected through their meaning, reflected in their spelling: senior and senator have the root “sen,” meaning “old.” According to Bear and Templeton (1998), these three layers - alphabetic, pattern and meaning - represent the layers of understanding that children move through as they acquire literacy skills. A
foundational understanding of the English orthographic system’s history and how it operates is essential for anyone helping students learn to read and write.

<table>
<thead>
<tr>
<th>Table 1: Layers of Linguistic Information</th>
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<tr>
<td><strong>Alphabetic</strong>- matching letters and sounds, moving left to right</td>
</tr>
<tr>
<td><em>example</em>: chip has four letters and three sounds (/ch/i/p/)</td>
</tr>
<tr>
<td><strong>Pattern</strong>- understanding complex interaction between letters and in syllables</td>
</tr>
<tr>
<td><em>example</em>: long vowel markers that act in a right to left fashion- ai (rain, bail), silent e (lake, rage)</td>
</tr>
<tr>
<td>syllable juncture patterns – open syllables end with a vowel, making a long vowel sound (the first syllables in ba-sic, ro-bot, bonus); closed syllables have a consonant at the end and make a short vowel sound (both syllables in com-bat, fab-ric, nap-kin)</td>
</tr>
<tr>
<td><strong>Meaning</strong>- reflecting the meaning of a word through its spelling, despite changes in pronunciation</td>
</tr>
<tr>
<td><em>example</em>: define/definition, local/locality, sign/signal</td>
</tr>
</tbody>
</table>

**Acquiring Spelling Knowledge**

Teachers should also know how orthographic knowledge is acquired and stored. How does the brain organize and absorb new information about words? Bear et al. (2008) state that two kinds of knowledge are used when learning words: general and specific. General knowledge is understanding the system and patterns of our language. Specific knowledge is understanding individual words, especially their meaning. Differentiating between homophones is an example of specific orthographic knowledge. According to Bear et al. (2008), these knowledge bases are reciprocal and both are required to spell efficiently.

In addition to word knowledge, there are specific foundational skills that every student needs to be a proficient speller: visualization and auditory sequencing. Proficient spellers scan a word and notice its length and the letter
shapes (Hodrinsky, et al., 2003, Cunningham, 2012). This skill is essential for remembering the spelling of irregular words, and telling when a word just does not look right (Westwood, 2014).

Visualization is not the whole story, but, for a long time, researchers narrowly focused on this skill. Westwood (2014) describes how entire spelling systems were built on the theory that proficient spellers were able to write words by recalling the word from an image they had stored in their memory. More recent studies have shown that, although visualization is essential for irregular words, it provides scant carryover into generalizable patterns (Westwood, 2014). While it is clearly an important skill, visualization is not the only key to spelling success.

The missing skill is auditory sequencing (Hodrinsky, et al., 2003; Westwood, 2014). It is a subskill of phonemic awareness (the ability to hear and manipulate sounds); auditory sequencing is the ability to keep sounds in the correct order (Westwood, 2014). Although it may seem counterintuitive in the context of spelling, auditory sequencing activities do not use letters at all. Instead, they challenge the student to identify syllables, listen for phonemes within words, stretch out their sounds (Hodrinsky, et al., 2003). It is foundational to spelling success, because without the ability to identify all the sounds of a word in their correct order, spelling it will be impossible. In fact, Westwood (2014) found that struggling spellers often had poorly developed auditory sequencing.

**Reading-writing connection.** Orthographic knowledge—understanding the spelling system—is linked to both reading and writing. As Ganske explains, when writing, letters are matched to sounds, and when reading, sounds are matched to
letters (2000). Ideally, this knowledge is then applied to the authentic task of writing. Newlands (2011) reminds, “The goal of effective spelling instruction is to create fluent writers, not perfect scores on the spelling test” (p. 531).

Spelling knowledge has also been linked to reading ability. Cunningham (2012) cites research which shows that knowing a word’s spelling is linked to understanding its meaning. Visualizing the spelling while learning the meaning and pronunciation has been shown to provide more lasting learning than just focusing on the meaning. Further, she states that learning spellings of words also helps with word recognition during reading. This is a long-term effect, as shown by studies where adult readers who are also poor spellers over-rely on context when compared to their peers who are better spellers (Cunningham, 2012).

All fluent readers do not become fluent spellers, though. Westwood (2014) notes that while reading are writing are “mutually supportive, ... they are not simply mirror images of the same process,” (2014, p. 3). They may share some brain functions, but spelling requires some specific motor skills that reading does not. He adds that spelling employs auditory mapping, as well as pronunciation and speech ability.

Because of the motor skills involved, spelling is connected to writing. Memory for a specific word is not only stored in the visual cortex, but also in the part of the brain which controls fine motor functions. Fluent handwriting supports spelling, because it poses one less barrier to getting letters onto paper (Westwood, 2014).
Sorting and storing spelling knowledge. Ehri (2013) theorizes that orthographic mapping may be the system binding together the complex tasks of decoding, encoding and comprehending. This means that spelling skill affects other literacy skills as well via one’s “orthographic map,” or the connections between sounds, letters, words, and meanings. Having a robust map of spelling may impact sight word memory, for example, because the reader connects the spelling with the pronunciation; according to Ehri, these connections in one’s orthographic map provides the “glue” that holds literacy together.

Ehri’s clinical studies demonstrated that students learn vocabulary words with more accuracy and speed when also exposed to the spelling of each word. She concludes, “an important consequence of orthographic mapping is that the spellings of words enter memory and influence vocabulary learning, the processing of phonological constituents in words, and phonological memory,” (2013, p. 6). According to Ehri, spelling is a word’s visual representation and is stored in a person’s visual memory, so knowing a word’s spelling improves recall of its sounds, or memory of how to decode the word and she suggests that spelling may work “behind the scenes to strengthen decoding skills,” (1987, p. 5).

This overlap in the development of literacy is hardly surprising when one considers the interplay between the skills required for reading, writing and spelling. These skills arise from a base of orthographic and phonemic knowledge that cannot easily be separated into isolated skills.

The way this knowledge is acquired and sorted is also useful information for a spelling teacher. As Cunningham (2012) explains, the brain performs two very
important functions related to spelling: recognizing pattern and making repeated actions automatic. Because brains naturally pick up on patterns, people sort many words in this way, which helps in learning new words and spelling unknown words. The “automatic” part of the brain memorizes words that do not have a pattern; this allows the speller to write them automatically without much effort, freeing up the thought process for more complex tasks like composition. Cunningham describes proficient spellers as having two banks of words to draw from when spelling: the automatic section, where words that are memorized are sorted, and the pattern section, where words are sorted according to their common orthographic principal.

The “pattern” knowledge is more complex than simply learning phonograms or root words. Our spelling system may seem slapdash on the surface, but “sound letter correspondences become more regular when other parts of the word are taken into consideration” (Hayes, Treiman & Kessler, 2005, p.28). As Treiman and Kessler (2006) explain, English spelling cannot be reduced to a set of static rules that are memorized. Rather, spellers use knowledge of the many varied patterns they encounter to make spelling choices that reflect how the phonemes interact with each other. Interestingly, this understanding is not usually acquired through explicit instruction and most proficient spellers have little understanding of why the patterns work the way they do. It is not surprising that this understanding takes until middle school to be fully developed. Hayes et al. (2005) found that adults are very attentive to context when selecting a spelling for vowel sounds, and most students are at least aware of this relationship by third grade. Understanding of the context of onset consonants appears as young as first grade.
Knowing how our orthographic system developed, how the patterns work and how language is acquired is a prerequisite to sound instruction. Without an understanding of how spelling patterns interact, teachers struggle to adequately explain the logic of our system to learners.

Approaches to Spelling Instruction

Helping students navigate the English orthographic system is not an easy task. As explained in the previous section, the system does have logical underpinnings, but ineffective instruction will leave students with the impression that the English language is impenetrable, filled with millions of rules to memorize, and then just as many “exceptions to the rule.” The core of my research question addresses this challenge: how can teachers best help their students develop an understanding of English spelling? In the next section, I will briefly describe historical approaches to spelling instruction, then delve into which specific practices are supported by research.

The systematic teaching of spelling has been studied for nearly 100 years. Different approaches and programs have come and gone as new research emerges or (more often) public opinion changes. When interviewing teachers about spelling, Schlagal determined that there are too many instructional choices for teachers and not enough direction on best practice (2002). Understanding how approaches differ is a starting point for teachers evaluating their current practice. In their literature reviews, Schlagal (2002) and Wallace (2006) both categorized different approaches into three paradigms.
The first group described by both Wallace and Schlagal, the oldest and the most common, is the traditional or basal approach. Teachers use weekly lists, usually from a commercial publisher, to teach orthographic patterns. Lessons are taken from spelling textbooks that offer a sequence of words arranged in increasing difficulty for each grade level. The defining characteristics of this paradigm are assessment by weekly tests and organization by grade level, which contrasts with the following two approaches.

A more recent paradigm that grew out of the whole language movement is the incidental, or student-oriented approach. Schlagal notes that this approach has no set curriculum or sequence. Proponents believe spelling is learned best through words that students use and find relevant, so spelling is taught through broad writing and reading experiences instead of pre-set word lists. Wallace describes it as a student-oriented approach where individualized study grows only from students’ reading and writing; the approach is based on research that most words are learned incidentally. Unlike the basal approach, assessment is authentic, coming from students’ daily writing (Wallace, 2002).

Finally, Schlagal and Wallace describe the developmental or transitional paradigm. In this approach, teachers monitor student progress through developmental stages of spelling; instruction is individualized or grouped by students who are “using but confusing” the same orthographic features (Schlagal, 2006). In other words, Wallace explains that instruction is based on assessment and student need, not a pre-determined scope and sequence. The developmental approach connects word study with a student’s reading and writing, using direct
and explicit teaching (Schlagal, 2006, Wallace, 2002). This approach has grown from a broad base of research, and will be described in more detail in the next section.

The recent adoption of Common Core State Standards (CCSS) has opened a door to re-examine spelling instruction. CCSS subtly shifts the way teachers should think about learning standards. Unlike some previous approaches to standards, according to Geshman and Templeton (2011) CCSS specifically and intentionally emphasizes reading and writing for a variety of authentic purposes. The authors emphasize that understanding how words work is key to understanding the challenging texts students are expected to read and compose. Educators must address the challenge presented by CCSS and determine if their instructional practices are adequately preparing students. As more states adopt CCSS and districts wrestle with the implementation, there is the possibility for fundamental changes in how spelling is taught and communicated to parents.

Researchers have learned much about how to effectively teach spelling in the last 100 years. Not all techniques are created equal. Having introduced the three most common approaches to spelling instruction, the next section will describe which practices are supported by research, and which are less effective, beginning with the biggest shift in thinking to emerge from research: the theory of developmental spelling stages.

**Developmental Stage Theory**

The theory of developmental spelling stages grew out of linguistic study. In his literature review, Schlagal (2002) notes that current research has focused not so much on what words to teach, but how to teach them. Researchers discovered a
pattern of developmental stages that children move through as they learn to spell, progressing in a logical sequence. Ganske (2000) credits Charles Read’s seminal work for birthing the field. In 1971, Read, a linguist, studied preschoolers’ inventive spelling and concluded that their errors told him how much they knew about words and phonics. Edmund Henderson built upon Read’s work and created the theory of a progression of developmental stages from preschool through adulthood; the stages grow more complex and abstract as the individual’s understanding of and experience with the language deepens (Ganske 2000, Bear et al., 2008). Students not only analyze increasingly complex word patterns as their spelling skills evolve, but the strategies they develop also increase in complexity (Templeton & Morris, 1999). Researchers have refined Henderson’s original work over the years into a continuum of spelling stages. This section will describe the stages and address some instructional implications of developmental stage theory.

The phases of spelling development, as outlined by Bear and Templeton (1998), align with other models of literacy development, in English as well as other languages. In Table 2, their classic stages are outlined along with examples of work a student may produce at each stage.

There is some debate about names and description of stages developed by different authors; Gentry (2000) offers an insightful comparison of two developmental models. For the classroom teacher, the minutia of which developmental model to use is less important than the underlying concepts- that spelling is developmental, that students will move through the stages at different but predictable rates, and that proper assessment should guide instruction.
### Table 2: Developmental Spelling Stages

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<th>Benchmark Skills</th>
<th>Examples of Invented Spellings</th>
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<tbody>
<tr>
<td><strong>prephonemic</strong> (ages 1-7, preschool-first grade)</td>
<td>pre-letter or quasi letter drawings</td>
</tr>
<tr>
<td>• imitates writing, scribbles and draws with writing instruments</td>
<td></td>
</tr>
<tr>
<td>• developing concept of word</td>
<td></td>
</tr>
</tbody>
</table>
| **semiphonetic** (ages 4-7, kindergarten-second grade) | C or CT for *cat*  
S or SM for *swim*  
J, JK, JRK for *drink* |
| • uses initial and final consonants | |
| **letter name** (ages 5-9, first-third grade) | LEK for *lick*  
SAK or STAK for *stack*  
SAD, SED, or SAN for *send*  
JUP or JOMP for *jump* |
| • relies on letter names for spelling, knows only one sound per letter (c only known as the hard /c/ sound in "cat")  
• uses a vowel in each major syllable  
• correctly spells CVC words and short vowel phonograms  
• begins to include blends and digraphs  
• omits long vowel markers or unstressed vowels, affricates and preconsonantal nasals (eg., *jump*) | |
| **within-word pattern** (ages 6-12, first-fourth grade) | NEET, NETE for *neat*  
NALE for *nail* or  
HOAP for *hope*  
DRIE for *dry*  
GROWND for *ground*  
JAKE for *Jack*  
LAFE for *laugh* or  
TOPE for *troop*  
CRAUL or CRALL for *crawl* |
| • begins to spell long vowel patterns (CVCe, CVVC, CVV) and complex single syllable words (CVck, CVght, diphthongs)  
• may over-apply newly discovered patterns or apply them incorrectly ("using but confusing")  
• more developed sight word vocabulary  
• more exposure to and knowledge of English language system | |
- chunks words for quicker processing
- short vowel substitutions disappear and more long vowel markers are used
- begins to know when words ‘don’t look right’

**syllables and affixes**  
(ages 8-18, third-eighth grade)

- uses and confuses prefixes, suffixes and less frequent vowel patterns
- exposed to more complex words through reading
- mastered vowel patterns in single-syllable words
- learning to apply knowledge of patterns to multi-syllable words (within syllables and across syllables)
- unstressed syllables are especially difficult

**derivational relations**  
(ages 10-adult, fifth-12th grade)

- correctly spells most words
- makes connections between words with the same base or root
- focuses more on spelling *meaning* than spelling *sound*
- word choice in writing grows, reflecting the maturation of vocabulary

<table>
<thead>
<tr>
<th>HOPING for hopping</th>
<th>MESURE for measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENJOI for enjoy</td>
<td>CAPCHUR for capture</td>
</tr>
<tr>
<td>AMMOUNT for amount</td>
<td>IRREGATE for irrigate</td>
</tr>
</tbody>
</table>

(Adapted from Bear & Templeton, 1998, pp. 225-226; Geshman & Templeton, 2011, p. 7; Gentry, 2000, pp. 8-20)

Describing spelling development as successive stages does not imply that students march uniformly through each milestone. Instead, Ehri described them as “overlapping waves, rather than discrete stages” (2013, p. 10), meaning that each stage builds upon the previous with some inherent movement, like a wave. As
children develop any new skill, they gradually increase their ability to complete a task correctly. There is never one particular moment when they jump from incompetence to mastery, but tentative steps, often with one foot on each side of the artificial divide of “stages.” Understanding this progression helps teachers interpret data and provide the most effective instruction.

What Research Tells Us About Spelling Instruction

How does this understanding of our orthographic system and children’s spelling development translate into classroom practice? Many programs, approaches and philosophies offer strategies for teaching spelling, but not all are created equal. There is a body of research that can offer teachers guidance, demonstrating what “good” spellers do, what strategies are ineffective and which produce results.

What do good spellers do? Before crafting a lesson, consider the complex strategies that good spellers actually use, since this is ultimately what will help struggling students. The main difference is, not surprisingly, that proficient spellers have many more strategies to help them problem-solve, and they use them flexibly (Wilde, 1999). Perhaps more importantly, when they are writing and are stuck on a word, good spellers can problem-solve and continue working. They may use a misspelling as a placeholder and check it later, resort to a dictionary or ask someone else. Good spellers have a hierarchy of strategies for different scenarios (Wallace, 2000; Westwood, 2014).

On the other hand, struggling spellers have fewer strategies and over-rely on phonics rules, sounding out letter-by-letter (Wallace, 2000). They often try to
memorize spellings, which is inefficient and hard to remember (Murray & Steinen, 2001; Westwood, 2014). Looking at some specific behaviors that proficient spellers employ gives educators an idea of the skills to encourage struggling students to develop. They include the following (Wallace, 2006):

- Use analogy (use a familiar word)
- Use word meaning
- Use structure of words, such as affixes and roots
- Look for chunks and phonograms
- Visualize words

Teachers who understand these mental moves that a proficient speller makes can better help students who struggle. Flexible strategy use should be explicitly taught. Without explicit strategy instruction, Murray and Steinen found that some students try to simply memorize individual words, which is not a realistic way to master spelling patterns (2011). Without quality instruction, “poor spellers” will not improve. Everyone, even proficient spellers, can benefit from instruction, since most students are not typically aware of orthographic patterns without explicit instruction (Templeton & Morris, 1999). Teacher-lead and student-directed word study are necessary outside of authentic reading and writing; incidental study is not enough (Alderman & Green, 2011). Teachers need to be selective in choosing materials, activities and lesson formats if they want to help all students understand spelling.
Research-based instructional practices. A simple search for spelling lessons and activities produces scores of ideas, but not every list, homework assignment, learning station or testing approach is effective. In fact, many common components of spelling instruction are not supported by research, and some are detrimental. While it may seem daunting to evaluate each aspect of spelling, from the creation of lists to assessment techniques and instructional strategies, the research offers clear recommendations in each area that can guide teachers to most effective practices.

Word lists. When I began teaching, I was given little guidance in what or how to teach. Instead, I was handed a stack of teaching manuals and left to figure things out on my own. Using the lists provided in these books seemed like a safe bet, but is it really the best way to organize spelling study? The answer is both yes and no.

Studies dating back to the 1920s show that systematic study of spelling words based on lists, rather than the “incidental” approach favored by the whole language movement is far more effective. This is because the words studied in a list are separated from linguistic distractions such as meaning, syntax, punctuation and handwriting, allowing the student to focus on the pattern. Without direct study and practice of the words, the effects of incidental learning have proven to be temporary (Schlagal 2002).

That is not to say that every spelling list is effective. Lists organized around content area vocabulary are inefficient (Newlands, 2011; Schlagal, 2002; Bear & Templeton, 1998). Here, words are organized by meaning, rather than graphophonic relationship. These low-frequency words do not offer students a chance to learn useful spelling patterns or internalize orthographic principles
(Schlagal, 2002). Without a unifying pattern to focus on, students need to learn the words one by one; this is time-consuming and not likely to be remembered (Bear & Templeton, 1998).

Instead, an effective list will be organized around systematic study of spelling. In his 2002 meta-analysis, Schlagal points to three hallmarks of effective lists. First, lists should share a common orthographic principle. Templeton and Morris agree that teaching words grouped this way allows students to compare and contrast, and notice how the spelling patterns work (1999). For example, a list of single syllable, long a words (day, gate, late, game, say) could show that –ay usually is a spelling for the sound at the end of a word, and –ate or silent e can be in the middle of word. In addition to crafting a list around a single spelling pattern, Schlagal also recommends that the patterns be generalizable and follow a scope and sequence that mirrors spelling development.

Quality basal spelling lists meet these three criteria, but they are still problematic. A pre-made list uses a “one size fits all” approach and fails to consider the differing stages of development represented in a single class (Newlands, 2011). In his summary of spelling research, Schlagal concluded that spelling instruction should be tailored to meet students’ developmental level, using multiple lists for one class (2002). When students study words at their instructional level, rather than their frustration level, their retention increases (Newlands, 2011). This reveals the main failing of traditional weekly basal spelling: one list of the entire class means that some students will be ready to spell those words while others are not. Those
who are not ready do not benefit from instruction, since they are not prepared to internalize the pattern being taught, not having mastered the prerequisite skills.

When students score below 30% on a list, they do not internalize the pattern and do not master it. They may not have enough understanding of the underlying orthographic principles to benefit from the instruction (Schlagal 2002). Yet the class marches on without them, leaving the students who struggle farther and farther behind. Schlagal describes the opportunity offered by differentiated lists: “Moving children out of their frustration level and into words more appropriate in difficulty appears to change the pattern of low-group learning. When in more developmentally appropriate lists, low achieving spellers respond to instruction given them, retaining the majority of what has been taught and at the same time generalizing patterns and principles learned to similar words not studied” (2002, p.52).

On the other end of the spectrum, Rymer and Williams (2000) point out that these lists do not address the needs of students who already know all the words. In their study of two first grade classrooms, a full half of the students already knew how to spell more words than they would be taught in the year. Confronted by data such as this, the absurdity of “one size fits all” lists sinks in.

Since differentiated lists have been shown to be effective, then one might assume that student-selected, individualized lists are as well. This is not entirely supported. Alderman and Green, whose work focuses on motivation in spelling, find that allowing autonomy in creating spelling lists increases motivation (2011). Allowing students to choose words that are relevant to their interests or that they
frequently misspell helps engage them. However, Bear and Templeton (1998) warn against straying from a tight focus on a single orthographic principle: do not focus on individual words rather than patterns.

Decades of research has provided some clear guidelines for selecting effective spelling lists:

- Choose high-frequency words within the student’s ability to read, instead of words from content area study (Schlagal, 2002; Bear & Templeton, 1998; Alderman and Green, 2011; Newlands, 2011; Templeton and Morris, 1999)
- Group words by a generalizable orthographic principle (Schlagal, 2002; Bear & Templeton, 1998)
- Follow a scope and sequence that mirrors students’ spelling development (Schlagal, 2002; Bear & Templeton, 1998)
- Differentiate lists to meet students at their instructional level (Rymer & Williams, 2000; Schlagal, 2002; Newlands, 2011)

**Assessment.** Once an appropriate list is selected, how should teachers approach assessment? Traditional spelling instruction uses a weekly lesson format, with a pre and posttest. This is effective when the lists are differentiated (Wallace, 2006). It also works well with the developmental approach, as Bear and Templeton recommend using the pretest to inform instruction and place a student in an appropriately leveled list (1998). A score between 40% and 90% indicates a student’s instructional level (Bear & Templeton, 1998). Pretests are even more impactful when the students self-correct (Schlagal, 2002).
Another option is a qualitative spelling inventory (a series of graded/leveled lists, developmentally organized) to assess both grade level and developmental level (Templeton & Morris, 1999). Here, the number of words spelled correctly matters less than the pattern usage that the student employs; this assessment helps teachers know what their students can do consistently and correctly as well as the orthographic patterns they have yet to master (Geshmann & Templeton, 2011). Simple spelling inventories can give insight into more than spelling knowledge: it reveals what a child knows about phonemic awareness and phonics patterns, based on what she can or cannot do in spelling unknown words (Gentry, 2000; Hauerwas & Walker, 2004).

Formal tests are not the only effective way to assess spelling. In fact, relying solely on isolated tests can give a false impression of a student’s spelling skill; authentic samples are needed to truly understand how much children know about spelling, and how they use it (Rymer & Williams, 2000). Alderman and Green (2011) suggest any formative assessment that helps students track progress not only produces results, but motivates as well. An effective spelling program will utilize portfolios, emphasizing progress over time. Teachers should have conferences with students to set goals, whether in regards to a test, authentic writing or a specific pattern. These goals establish that progress is measured by individual growth, not competition between peers. Self-evaluation by the student is also an important assessment component that affects motivation and buy-in. Ultimately, evaluation and recognition should be private and stress effort over ability.
When assessing spelling through tests or writing samples, it is ineffective to view or describe misspelled words as “wrong.” As noted in the previous discussion on developmental stages, spelling errors should be viewed not as negative mistakes, but helpful clues that offer insight into how much a child knows about orthographic patterns (Templeton & Morris, 1999; Hauerwas & Walker, 2004). By analyzing errors in a way similar to miscue analysis in reading, teachers can plan targeted instruction; it can also help teachers differentiate between a normal gap in development and a learning disability (Hauerwas & Walker, 2004).

Instead of “correcting spelling mistakes,” teachers should seize the opportunity to highlight all that a student got right in her attempt. Pointing out the parts of the word that are spelled correctly before addressing the mistake reinforces the correct usage of patterns and empowers her to continue trying. Taking an “all or nothing” approach to spelling is ineffective (Templeton & Morris, 1999).

When a student’s work samples or tests show a large gap between their spelling performance and that of their peers, a learning disability could be the cause. Some students lack the ability to hear sounds in words (phonemic awareness) or identify part of the word that convey meaning (morphological awareness). Instead, they are more attuned to the orthographic structure (spelling pattern) rather than the sound or meaning of a word. Teachers should assess these students’ phonemic and morphological awareness to see if some remediation is necessary. While assessments are oral, writing samples should also be analyzed for further evidence of deficit (Hauerwas & Walker, 2004). When planning assessment, some principles can guide teachers:
• Weekly lists are effective, when differentiated and self-corrected (Wallace, 2006; Schlagal, 2002)

• Qualitative inventories can provide a picture of what spelling stages students are in based on the parts of words they spell incorrectly (Geshmann & Templeton, 2011; Templeton & Morris, 1999)

• Informal assessments (writing samples, conferences, portfolios, goal-setting) offer another measure of progress and increase motivation (Alderman & Green, 2011)

• Misspelled words should not be marked “wrong,” but the parts that are correct should be discussed as much as the parts spelled incorrectly (Templeton & Morris, 1999)

**Instructional practices.** Our understanding of spelling has grown and developed over time, but unfortunately many instructional activities have not. It is vital that teachers select only those that are research-based and proven effective. Many options are busywork at best, detrimental at worst.

A teacher can begin by planning a schedule that allows for adequate time for spelling study. Wallace (2006) suggests spending 60-75 minutes per week, and Schlagal (2002) adds that this time should be distributed in small, frequent bursts over the course of a week, rather than consolidated into longer sessions.

After allotting time for study, appropriate activities must be selected. The quality of a resource can be assessed by looking for these key components: directing students focus on an orthographic principle, incorporating both explicit instruction
as well as authentic reading and writing, and actively involving students in their learning.

Spelling study should draw attention to the orthographic principle. Some examples of such activities are:

- Word games that involve specific spelling patterns (Templeton & Morris, 1999)
- Study of phonograms, or word families (Templeton & Morris, 1999)
- Writing sorts (Bear & Templeton, 1998)
- Spelling notebooks (Bear & Templeton, 1998).

Another activity that is supported by many studies is word sorts. Here, the student is provided with a set of words to sort by orthographic feature (Templeton & Morris, 1999). The teacher will scaffold at the beginning of the activity by reading the words and thinking aloud about how the words are alike (Hauerwas & Walker, 2004; Templeton & Morris, 1999). Sorting requires the student to focus on the differences and similarities in spelling of a group of words; in classifying words, a child can draw generalizations about the spelling patterns, which can then be applied to spelling new words (Hauerwas & Walker, 2004). As Hauerwas and Walker explain, “such activities may bridge the gap between the number of words that can be explicitly ‘taught’ and the number of words that are ‘caught’ through text exposure” (2004, p. 172).

Teachers should lead students to discover patterns and generalizations, not memorize ‘rules.’ The black and white connotations of rules can confuse students when words do not fit that ‘rule’, and it detracts from natural inquiry, decreasing
motivation and interest (Bear & Templeton, 1998). While using the term "spelling pattern" instead of "rule" may seem like a small semantic difference, the implication is quite significant. As a result of the complexity of the English language, outlined earlier, many students (and their teachers) view spelling as a nonsensical boondoggle. Presenting a set of words with a "rule" only deepens this perception when the inevitable 'rule-breaker' is introduced. The fact is that statistical analysis has shown that the English language is quite consistent. Schlagal (2002) points out that this regularity extends past the basic common words, often presented as phonograms.

Teaching spelling patterns should include exposure to different letter combinations that can make the same sound. Treiman and Kessler (2006) point out that many spelling programs focus on teaching most common patterns with deviant spellings presented as rule-breakers that need to be memorized, but this is often not the case. Instead, they conclude that exposing students to variant spellings and the method of analyzing the context of the sound better enables students to make a choice between spellings. For example, when spelling long /a/, when is –ay used, as opposed to –ai? "The goal of such instruction would not be to explicitly teach every contextually driven pattern of English. Instead, the goal would be to alert children to the fact that context is often useful in selecting spellings for sounds and that spellings that deviate from the norm need not always be individually memorized" (Treiman & Kessler, 2006, p. 650).

Instructional activities should combine explicit strategy instruction with authentic exposure through literature and writing (Schlagal, 2002; Butyniec &
Woloshyn, 1997). In a study that compared explicit instruction OR whole language only versus a combined approach, Butyniec and Woloshyn (1997) found that students in the combined instruction (receiving explicit instruction on how and when to use spelling strategies, connected with authentic literature and writing experiences) showed more growth than their peers. Explicit instruction often uses spelling words in isolation; for students to carryover the learning, they need to use it in writing (Williams & Lundstrom, 2007). Teachers can model strategy use in writing lessons to promote transfer of learning (Williams & Lundstrom, 2007).

Hauerwas and Walker (2004) encourage the systematic use of target words and patterns in context, through shared or individual reading and writing, or cloze activities; this helps students generalize the pattern and apply it to novel words. It is essential that authentic reading or writing be included in every spelling lesson (Schlagal, 2002, Hauerwas & Walker, 2004). As Bear and Templeton (1998) summarize, balanced instruction involves “pulling words from live context, working with them outside of those contexts, and then putting them back into those meaningful contexts” (p. 223).

Rymer and Williams (2000) demonstrated the importance of a spelling approach that balances explicit instruction and authentic activities. In classrooms where students received only explicit instruction on a weekly list of words, there was almost no transfer of learning to students’ writing. However, in classrooms where teachers combined explicit instruction with authentic opportunities to use and practice spelling, the students showed more growth in their writing samples. The best example of one such activity is interactive writing. Teachers who use this
activity get a platform for mini-lessons that go beyond the scope of the weekly list, working with words students will use. It allows the teacher and students to model their thinking and problem-solving strategies within the context of writing, not isolated on a test. Students in the “explicit instruction only” classrooms learned an average of 65 words in the year; students in the “balanced classroom” averaged 184. When the researchers compared students’ writing samples from both learning environments, they questioned whether 20 minutes of isolated instruction was well spent.

Connecting spelling with reading, writing and speaking does not only expose students to the words in authentic scenarios; it is also essential for students with learning disabilities. Hauerwas and Walker (2004) note that these students often have less developed phonemic awareness (ability to hear sound units in words) and oral morphological awareness (recognizing, understanding and using word parts that convey meaning) than their peers. Multisensory activities that involve speaking, hearing, seeing and writing together have been found to be most effective in helping students transfer target patterns to new words (Hauerwas & Walker, 2004; Westwood, 2014).

Even students without disabilities need these multisensory approaches. Westwood’s (2014) description of the brain-based skills used in spelling-sound sequencing, fine motor, speech, letter memory- should be addressed in spelling instruction. This has direct implications for instruction: according to Westwood, teachers need to engage these parts of the brain to get efficient carryover.
Another hallmark of effective activities is student involvement. Alderman and Green's (2011) work emphasizes the importance of participation in motivation. Any time that students can help select words, track or reflect on their progress or choose an activity, they are more engaged and motivated. Wallace (2006) recommends utilizing a spelling notebook where students log and track their errors. Word sorts that require analysis and comparison are more effective than passive worksheets (Bear & Templeton, 1998).

Teachers can use these guiding principles in selecting evidence-based instructional practices:

- Plan for about 60-75 minutes of instruction, spread out over the week (Wallace, 2006; Schlagal, 2002)
- Lessons should focus on a single orthographic principle, such as a spelling pattern or phonogram (Bear & Templeton, 1998; Templeton & Morris, 1999; Hauerwas & Walker, 2004)
- Activities should lead students to generalize patterns, not memorize “rules” (Bear & Templeton, 1998; Schlagal, 2002; Treiman & Kessler, 2006)
- Lessons should balance BOTH explicit instruction and authentic reading and writing (Butyniec & Woloshyn, 1997; Schlagal, 2002; Williams & Lundstrom, 2007)
- Activities should be multisensory, engaging students in reading, writing, speaking and hearing (Hauerwas & Walker, 2004; Westwood, 2014)
• Student involvement in learning, through the use of word journals, self-correcting, conferencing or error logs is critical (Bear & Templeton, 1998; Alderman & Green, 2011)

Considering these three aspects of effective instructional practices, how do traditional basals perform? Unfortunately, Schalgal (2002) found that many of these “ready-made” programs suggest activities that have no research support, such as unscrambling words, translating them into code, alphabetizing them, or looking them up in the dictionary. He contends that most do not promote activities that support the internalization of orthographic patterns. Furthermore, copying activities can even have a detrimental effect on attention span. Other traditional approaches, such as workbooks and drill exercises are ineffective because they do not actively engage students with the system of linguistics. To use this knowledge effectively, they must see the logic in the system and have a process for selecting the best choice from multiple patterns in our language (Wilde 1999). In addition, passive activities often suggested in many basals do not support this deep understanding.

Compare these traditional activities with inventive spelling. In this approach, teachers do not correct every spelling error a child makes; instead, they allow the student to struggle with the spelling and represent the word in the best way they can. The goal of invented spelling is to foster confidence by allowing children to show what they can do and validating it, as opposed to focusing on perfect conventional spelling (Sipe, 2001). Additionally, Sipe suggests that by allowing children to apply what they have learned about phonics in an authentic way,
invented spelling deepens their understanding of how our language works and offers an opportunity for practice with a purpose. Although its value has been supported by many studies cited by Templeton and Morris, it remains controversial.

This controversy is due to the misconception that inventive spelling merely overlooks the errors, and the child is not learning the “correct” form (Gentry, 2000). “But an active child does not imply an inactive teacher,” Sipe reminds (2001, p. 272).

There are many ways that a teacher can scaffold a child’s spelling without just supplying the correct answer. For example, Elkonin boxes can be used to help segment and identify sounds in a word. Supplying a “practice page” in student’s writing notebook provides space to test out different spelling options without the mess of erasing. ‘Have a Go’ cards encourage students to try out a spelling before asking for help and also grant the teacher an opportunity to point out what parts were spelled correctly. Interactive writing lessons model spelling strategies for a whole group (Sipe, 2001). Inventive spelling unifies phonics instruction with writing— it is the application of the skills taught in isolation. When children start asking questions about “right” spelling, they are ready for scaffolding and instruction (Templeton & Morris, 1999).

Compared to traditional basal programs, inventive spelling aligns more closely with research-based best practices. It incorporates authentic writing, should include explicit instruction, and actively engages students in their learning.

A side-by-side comparison of research on effective versus ineffective activities brings their differences into sharp relief:
Table 3: Comparing Effective and Ineffective Practices

<table>
<thead>
<tr>
<th>Effective (research-based)</th>
<th>Ineffective (no support in research)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>focus students on an orthographic principle</strong></td>
<td>• Teaching students to depend on phonics rules (Schlagal, 2002)</td>
</tr>
<tr>
<td>• Word sorts (Bear et al., 2008)</td>
<td>• Writing words in a word search or story</td>
</tr>
<tr>
<td>• MyEsorts computer program (Zucker, 2008)</td>
<td>• Copying or rewriting a word more than three times (Schlagal, 2002); example: recopying misspelled</td>
</tr>
<tr>
<td>• Word mapping (Murray &amp; Steinen, 2011)</td>
<td>words, rainbow writing, writing with different instruments</td>
</tr>
<tr>
<td><strong>incorporate both explicit instruction as well as authentic reading and writing</strong></td>
<td>• Looking up words in a dictionary</td>
</tr>
<tr>
<td>• Word sorts (Bear et al., 2008)</td>
<td>• Writing words in code or fancy letters</td>
</tr>
<tr>
<td>• Explicit instruction and modeling of study skills and strategies (Wallace, 2006; Westwood,</td>
<td>• Letting students figure out their own study methods</td>
</tr>
<tr>
<td>2014)</td>
<td>• One spelling list for the entire class</td>
</tr>
<tr>
<td>• Making and writing words (Raisinski, 2008)</td>
<td>• Fill-in-the-blank worksheets</td>
</tr>
<tr>
<td><strong>actively involve students in their learning</strong></td>
<td>• No review of misspelled words or previously taught spelling patterns</td>
</tr>
<tr>
<td>• Word sorts (Bear et al., 2008)</td>
<td></td>
</tr>
<tr>
<td>• Word mapping (Murray &amp; Steinen, 2011)</td>
<td></td>
</tr>
<tr>
<td>• Cover-copy-compare (Powell et al, 2008)</td>
<td></td>
</tr>
<tr>
<td>• Spelling in parts (SIP), (Powell et all, 2008)</td>
<td></td>
</tr>
<tr>
<td>• Making words (Raisinski, 2008)</td>
<td></td>
</tr>
<tr>
<td>• Self-corrected tests</td>
<td></td>
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<tr>
<td>• Word logs or journals</td>
<td></td>
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<tr>
<td>• Personal word walls</td>
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</table>

When planning spelling instruction, teachers must select appropriate word lists for study, collect assessment data to guide instruction and choose activities that will actively involve students. Research clearly shows that effective instruction focuses sharply on specific orthographic patterns, uses spelling in authentic ways, explicitly teaches strategies and engages students. This will often look very different
from traditional spelling activities. Without much training in linguistics or effective spelling instruction, many teachers resort to teaching the way they were taught. New methods may seem daunting to both teacher and parents, who may question deviating from basals and workbooks. It is essential that both teachers and parents are engaged in a conversation about what research tells us about spelling, and why it is so important.

Summary

In the past 100 years, our understanding of how English spelling works and how it is acquired has deepened. Statistical analysis of spelling has found a surprising level of consistency in the patterns used. Advances in brain research provided insight into how spelling, reading and writing are connected. Despite a seemingly confounding system, we know that our language has patterns and students can learn them. Developmental stage theory helps teachers monitor growth and determine how to best instruct students.

Even with the progress researchers have made, spelling instruction has changed very little. After the failure of the incidental approach in the whole language movement, teachers reverted to traditional spelling lists and basals to guide their instruction. Lists have evolved to reflect a developmental scope and sequence, but many instructional strategies currently in use are not grounded in research.

As they plan, teachers need to consider what lists to use, how to assess and what activities will best engage their students. Best practices include explicit
strategy instruction, authentic application of skills, focus on clear orthographic patterns, use of developmental stage theory, and student engagement.

Traditional approaches may be part of a robust spelling curriculum, but newer methods need to be incorporated to bring instruction into alignment with current research. The move to Common Core State Standards is an excellent opportunity to review classroom practices. Teachers and parents need to be engaged in this process, with an understanding of how research can be translated into practice.

I was inspired to learn more about spelling instruction because of my own struggle with spelling and my dissatisfaction with my current teaching choices. I have outlined what we have learned about spelling, and how that translates into best practices. My question, *How can teachers use research-based strategies to support elementary students as they develop spelling skills?* has guided my reading. In the next chapter, I will describe my plan to conduct a self-study of my spelling assessment practices.
Introduction

Spelling is a complex task that requires a deep understanding of the patterns and conventions of the English language. Teaching spelling is an equally complex endeavor; with little formal education in linguistics, many teachers struggle to identify and use best practices when teaching spelling. My review of research shows that not all approaches are equally effective. My personal struggle with spelling and professional dissatisfaction with spelling instruction led me to pursue the question: *How can teachers use research-based strategies to support elementary students as they develop spelling skills?*

In the previous chapter, I outlined strategies shown to be effective, as well as some that were not supported by research. Best practice is for spelling instruction to be explicit and organized in a developmental sequence that mirrors the stages through which students progress. Effective instruction is differentiated to address the varying levels of ability within a class, and it should be delivered in small daily lessons. Viewing spelling through a developmental lens is supported by research and has significant implications for how teachers craft word lists, organize and plan lessons and assess their students’ progress.
Researching spelling was a transformative experience that led to deep reflection on my current practices. This led me to choose the self-study model for my research. In this chapter, I describe the self-study methodology, my plan for the self-study, the tools I used to collect data and the setting in which I conducted the study.

Self-study Methodology

As I reflected on my question, *How can teachers use research-based strategies to support elementary students as they develop spelling skills?* I identified myself as the teacher who is central to this inquiry: I am an educator who strives to make research-based instructional decisions. While writing Chapter Two, I felt every article shone a spotlight on my practice, beliefs and attitudes. I decided that the best methodology to help me answer my research question was a self-study, in which I examine my current practices, seek feedback from colleagues, change my teaching and analyze the results of the change.

Samaras and Freese (2009) describe a self-study as a reflective process that addresses not only classroom practices, but also one's philosophy and ideals. They claim teachers engaged in self-study address the “living contradiction” that is the difference between how we want to teach and how we actually teach (p. 11). I have witnessed this “living contradiction” in colleagues and lived it myself. It has irritated me like a stone in my shoe: how can we continue to go about business as usual, when we as educators are aware that what we are doing is ineffective? That broader question is a matter for another capstone project, but I share it as a way of explaining why the self-study methodology appeals to me.
I began work on this project four years ago, and in that time, I have consumed literature about research-based spelling practices. In those four school years, I have tinkered with my spelling instruction, but have always been nagged by the knowledge that I continue some practices I know are “wrong.” The process of researching my question has been deeply introspective, and the self-study model was the most logical framework to answer my question.

Samaras and Freese discuss three characteristics of a self-study: openness, collaboration and re-framing. One must be open to change and willing to question instructional choices. Self-study is also best done in collaboration with a colleague, who can offer a different perspective and help reframe the discourse. The final component, reframing, is what ultimately leads to real growth and change.

I planned a self-study that worked these components- openness, collaboration and reframing- into an investigation of my assessment practices in spelling. I understood from my review of literature that the topic of spelling is wide, and “best practices” encompass a broad range of instructional choices: spelling lists, homework activities, lesson structure and design, assessment and testing. I decided to focus on changing my assessment practices as it seemed like a natural beginning, opening the door to addressing other areas of spelling instruction.

Reflection and collaboration. I began my study by describing the assessment practices I had in place before the study. A summary of the “current” practice allowed me to reflect on what was working and what should be changed. I invited my colleague, a third grade teacher, to join in this discussion. She was also working on her Masters of Literacy Education, and was very interested in spelling
instruction. She provided an outsider’s view into my classroom, and collaborated with me in identifying practices I could change.

In this meeting, I described my assessment practices prior to the self-study:

- **Weekly spelling tests**- Every Monday, the entire class took a pre-test, which the students self-corrected. I reviewed them before they were sent home that evening. If many students missed the same word, I made note of that for my lessons later in the week. On Friday, the entire class took the post-test. I included two words on the post-test which were not on their “study list” to review previously learned spelling patterns.

- **Recording errors**- I kept a Google Document instead of a spelling grade book. Rather than recording raw spelling scores, I recorded errors from the spelling tests, including the misspelling and the conventional spelling. I would notice if a student was showing a pattern of errors. At the end of the trimester, I would retest the students on words they had missed over the period, to check and see if they had mastered them or still needed additional study of that pattern.

- **Developmental spelling inventory**- Four times a year, I administered a developmental spelling inventory. I used planning sheets to help me place the students on the developmental continuum. It helped me monitor growth over long periods of time. This assessment did not factor into lesson planning.

- **Report cards**- When determining marks for report cards, I would review the errors students made on the weekly tests (Google Doc gradebook, Appendix B). I would also review each student’s writing journal, looking for evidence of spelling usage “in the wild.” This was an informal review, which I used to cross-check the
accuracy of their spelling scores. I wanted to check to find students who passed the weekly tests but were failing to apply the patterns in their writing.

After outlining the assessment practices I had in place, my colleague and I discussed what was working, and what was not; what was best practice, and what was not. Together we concluded that my methods for assessing were soundly designed and supported by research. Some key best practices I used included self-correction of the pre-test and use of a developmental inventory. My grade book also offered great insight into exactly where students were struggling with specific spelling patterns. She questioned my use of assessment results, and I recognized that I could improve on the way that my assessments inform my teaching.

Specifically, I need to make teaching more individualized, adjusting my responses based on student data. My practice of using one test for the entire class has been shown to be a less effective than individualizing lists. As we talked about how to change this, we both realized that this would be a major shift to how I teach spelling. We also recognized that December was not an ideal time to begin new routines and lesson formats. Therefore, I needed to find another aspect of my assessment that could be improved, and knew that major changes to my spelling instruction would need to wait.

We were both in a Professional Learning Community (PLC) focusing on assessment. Together with our colleagues, we had been exploring formative assessments in our discussion. I suggested that I could increase my use of informal, formative assessments. Improving my use of formative assessment would naturally support the change needed in my spelling instruction, since it would give me quick
information that could shape my lesson goals, student groupings and individual learning targets.

**Action plan**

Based on feedback from my colleague, I decided that incorporating formative assessment into my current routines was the best focus for my self-study. Bailey and Heritage (2008) outline seven principles of formative assessment that differentiate it from other kinds of classroom data:

- **Purpose**: provides the teacher with data to monitor students’ progress on specific learning targets
- **Flexibility**: can be used throughout the learning cycle
- **Interpretive framework**: learning is viewed along a continuum, not “pass/fail”
- **Feedback**: provides feedback to the teacher on efficacy of instruction, and can also be a form of feedback to students about their learning
- **Student involvement**: utilizes peer and self-assessment to spark reflection in students
- **Timely**: results are used immediately to adjust instruction
- **Locus of control**: the teacher is in charge of when, how and what will be assessed

Based on these defining characteristics, I chose three techniques helped me track student progress on specific spelling patterns. I focused on increasing student involvement and teacher feedback, since those were prominently missing from my
original practice, and typically are not well supported by curricular materials. The techniques I chose were writing conferences, spelling logs and exit slips.

**Writing conferences.** I created a form to help me track individual writing goals and communicate them to students (Appendix C). The form helps focus the writing conferences I already have in place, but adds “spelling” as an area for goal-setting. As was previously discussed in Chapter Two, research shows that although explicit instruction is necessary, connecting that knowledge to authentic writing is also essential to robust spelling instruction (Schlagal, 2002; Butyniec & Woloshyn, 1997; Bear & Templeton, 1998; Rymer & Williams, 2000).

**Spelling logs.** Each student added a spelling log to their word work folders (Appendix D). It looks like a mini-word wall, organized alphabetically. When students made a spelling error, it was added to the log, with the “tricky part” (where they made the error) highlighted. I chose a spelling log because research suggests that tracking progress will not only improve spelling, but will also motivate students, as it emphasizes progress (Alderman & Green, 2011). Although organizing the words alphabetically limits connections between spelling patterns, the purpose of this tool was to help students track growth and review, not to introduce or practice new patterns.

**Exit slips.** After explicit spelling lessons, students used post-its to demonstrate mastery by using the spelling pattern to write another word, and then rate their understanding. This classic formative assessment gave me quick feedback on student progress, flagged students who needed more help, and engaged the students in assessing their own grasp of the material.
These assessment techniques could be used in any classroom setting, at any grade level. They are grounded in research and bridge the gap between isolated spelling instruction and application in an authentic setting. However, these isolated assessments do not tell the full story of my self-study. Next, I will describe the setting and participants in my study, to provide context as I answer, *how can teachers use research-based strategies to support elementary students as they develop spelling skills?*

**Setting and Participants**

This study took place in a parochial school located in an affluent urban neighborhood of Minneapolis. There are 411 students enrolled in kindergarten to eighth grade. Physically, the school is split between two campuses; the lower campus houses kindergarteners, first and second graders and the upper campus is home to students in grades three through eight. There are typically three classes per grade level, with an average class size of 20.5 students. The majority of students are white and all speak English as their primary language.

I have been an elementary teacher at my school for 10 years. This year, I have 17 students in my first grade class, a luxuriously low number when it comes to differentiation. Offering more individualized, developmentally appropriate spelling instruction to the nine girls and eight boys in my class has been one of my goals this year.

Four years ago, our curriculum committee adopted the Journeys textbook series, published by Houghton Mifflin Harcourt, for grades kindergarten through five. It includes daily spelling practice and weekly word lists. It is expected that
teachers will use these resources, although there is no mandate that one particular curricular resource be used; some teachers have chosen to use a common developmental spelling curriculum, *Words Their Way* (Beat et al., 2008), instead of the Journeys spelling lessons. My team uses the lists and assessments provided by *Journeys*, following the scope and sequence set out by the publishers. As previously described, I use a developmental spelling inventory from *Words Their Way* as a supplement to the weekly tests. It is in this context that I assessed my current practice, recognizing that I had the benefits of a small class size this year, and relative freedom to shape my spelling instruction as I see most fit.

**Summary**

When I began coursework on my Masters of Literacy Education, spelling development intrigued me. Earlier in this capstone, I described my personal difficulty with spelling as a student, and my professional struggle to teach my students more effectively. My experiences led me to my research question, *How can teachers use research-based strategies to support elementary students as they develop spelling skills?*

Throughout my research, the teacher has remained central to my investigation, and I processed new information through the lens of my own experiences as a student and as a teacher. The reflective nature of my project suggested that a self-study was the most appropriate methodology for my project. In this chapter, I have described the components of a self-study, my two-week action plan, and the setting and participants in this study.
Next, Chapter Four will present the results of my study. I will reflect on the process of increasing the formative assessment data I collect from authentic sources, and provide samples of student work. The previous chapters told the story of what is known about best practices in spelling instruction; the next chapter tells the story of what happens when one teacher attempts to address the "living contradiction" of what she knows to be best practice and what she actually does.
CHAPTER FOUR

Results

Introduction

Difficulty with spelling has been a part of my identity as a student for as long as I can remember, and has remained so as a teacher. My early struggle with spelling formed my attitudes; when I became a teacher, I continued to struggle with spelling. For this self-study, I wanted to reflect on the process of teaching in a way that prevents my students from having a similar struggle. Four years of reading, annotation, discussion and planning led to the implementation of the self-study I outlined in the previous chapter. I had assumed that my difficulty teaching spelling was attributable to my difficulty with the subject itself; my research for this project revealed exactly how complicated the process of learning to spell is, and how ill-prepared teachers are to teach it.

In Chapter Three, I described a self-study and outlined my plan to align my assessments with research-based best practices for spelling development. I chose formative assessment in order to keep a tight focus during my two week study. I also collaborated with a colleague and discussed my project within a Professional Learning Community (coincidentally also focused on assessment practices). During
the two-week implementation period, I used three specific formative assessments and reflected on how their implementation impacted me as well as my students.

In this chapter, I present the results of this study, centered around my research question, *How can teachers use research-based strategies to support elementary students as they develop spelling skills?*

**Results**

At the beginning of this project, I understood that a two week period would not be sufficient to show measurable change in students’ spelling. However, in this self-study, I am not testing the effectiveness of the assessment strategies I chose; they are evidence-based best practices. Therefore, to be explicit, the purpose of this self-study is reflection on the process of adjusting instruction to align with best practices. I will describe each change I made and share my observations and reflections on their use in my classroom.

**Writing conferences.** I have always made informal conferences part of my writing instruction. I decided that incorporating spelling into this routine would be the most natural way to address students’ natural spelling usage, within writing. I created a form to record writing goals for each student (Appendix C). In addition to “editing” and “idea” goals, I added a section for “spelling.” When I met with students, I introduced the goal sheet, which was a new component of our conference. After looking at writing samples, I presented my ideas for one or two writing goals, depending on the student, and asked for their feedback. I kept the form and gave each student a sticky note with their goal to keep in their personal writing binder.
Right away, I noticed a change in student interest and motivation because of the use of a form. They were very serious when we discussed their goals, and I noticed that some students put their sticky note goals on their desk name tags: a very prominent place. They were eager to have their turn to meet with me; two students in particular asked for continuous updates on when they would conference. This uptick in student motivation reflects Alderman and Green’s research (2011), which found that drawing students into the assessment process with conferences and goal-setting increases engagement.

From an instructional perspective, I found the addition of goal-setting forms to the conference routine to be difficult to begin. The amount of time needed to prepare was considerable. As I scoured writing samples, looking for growth areas, I questioned whether this is a sustainable practice. Before, my conferences had been less focused, but more manageable to conduct. On the other hand, I immediately saw the benefit of tracking goals. A two week period would not do justice to the process of developing writing or spelling, but I imagined what the goal-setting forms would show by the end of the year: as goals are met and new targets selected, student growth would be visible to teacher, student and parent.

At the end of my study, I was impressed with the information I was able to pull from writing samples. There was surprising consistency between the writing samples and the developmental spelling inventory I had completed three weeks prior. I will share the work of two students, “Sage” and “Adda,” to illustrate my interpretation of their spelling and how that translated into conferencing.
Sage's performance on the *Words Their Way* (Bear et al., 2008) elementary inventory indicated that she has mastered beginning and final consonants, short vowels and digraphs, but was ready to work on blends. When I looked at her journal, I noticed that she was having difficulty choosing between *c*, *k* and *ck* to spell the hard *c* sound. This reminded me of the point made by Ehri (2013): movement from one stage to another is not a clean process; students work on goals at two stages simultaneously. As you can see from Figure 1, she uses a *k* instead of a *c* in “crying.” In Figure 2, she again substitutes *k* in “computer.”

Sage and I talked about her work and decided that she could work on spelling this sound in short vowel words. I reminded her of the cat-kite trick we learned in class (Figure 3), to provide a visual cue, which I had her draw on a post-it for her notebook.
Later that day, she had moved it to her desktop, a place of prominence.

“Adda’s” inventory showed that she had made great progress since the beginning of the year. She had mastered consonants and short vowels, and was now moving on to digraphs. Adda struggled with writing and lacked confidence. Spelling took effort and she avoided the task when possible. From her sample (Figure 4), I could see that she was using vowels to represent both short and long sounds, but not in the more complicated r-controlled vowel in “first.” Based on her assessments, I knew she needed to work on digraphs, but I could not find instances of use or misuse in her writing. Adda’s stories were brief and she often got stuck on words. While her goal was to work on digraphs, I sensed that she needed help getting “unstuck.”

The first strategy we talked about was “have-a-go.” Whenever she was unsure how to proceed, instead of letting that derail her, Adda would write her attempt on a slip of paper and slide it to me. When I had a chance, I would underline the correct parts and provide the rest of the word. This relieved some stress of making everything perfect while still forcing her to try using what she knows about spelling to make an attempt. As she becomes more confident, I can adjust this routine by having her try a second time after I underline the correct portions.
Working with Adda and Sage’s authentic writing gave me a better sense of their needs. Their scores on the inventory placed them in the same developmental stage, but their learning goals were very different. My teaching was more responsive because I took time to see how they were using spelling in an authentic context.

Spelling logs. Because I conducted my study at the beginning of a new trimester, I was able to have each student create a log of any word they had missed on spelling tests during the first part of the year. I also chose words students misspelled frequently within their writing. I explained that they could choose when to demonstrate mastery, and once they could spell the word independently they would get a star next to it in their log.

Again, students were excited by a new, novel routine and some wanted to try spelling their words right away. I was not able to re-test students during the two week period, highlighting a major challenge inherent in adjusting instruction: adding new components is difficult when more minutes are not added to the school day, and adopting a new routine often requires modifying or abandoning another routine. Adding a spelling component to my writing conferences demonstrated how much more successful instructional changes are when they are folded into a pre-existing routine. In the future, I could add an individual spelling check into my weekly whole-class spelling tests, or I could incorporate it into the writing conferences.

Another problem that became apparent during my study was the alphabetic format I had chosen for the log. I knew that research demonstrates that word study is most effective when organized by spelling pattern rather than arbitrarily by
alphabetical order (Schlagal, 2002; Bear & Templeton, 1998). I had chosen to organize the logs alphabetically, thinking it would be a more useful reference for students, but after using the logs for two weeks, I do not think that this was an effective format for word study or student use. One perceptive student noticed that she had missed many words with -ck at the end, and asked if she should write them under “c” or “k,” pointing out the flaw in my format.

Exit slips. I asked students to respond to a spelling lesson with exit slips twice during my study. Once, I asked my class to write a word with the phonogram we studied (-ump) at the top of a worksheet, next to their name. The second time, students used sticky notes to spell a word with the blend we focused on during a word sort, adding a number to communicate self-evaluation of mastery (1- needs help, 2- pretty confident, might need some guidance, 3- got it!). As you can see in Figure 5, students were able to demonstrate understanding by writing a word using the targeted blend, and I can tell with a visual sweep who is feeling confident and who would like more help.

This technique elicited the least excitement in my students, but it was the easiest for me to analyze, offering immediate feedback...

Figure 5: exit slip for spelling blends
on the impact of my lesson. Because it was less formal, I noticed that copying was a factor, especially on the worksheet. Because it was teacher-focused (providing feedback to me, not students), I found that it gave me less information than the conferences. I did get a sense of how well my lesson went, but on an individual level, it only confirmed what the weekly tests showed. The conferences, in comparison, gave me a view of what each student was doing in an authentic setting.

Reflection and collaboration. A major component of self-study is collaboration (Samaras & Freese, 2009). Before I implemented my new assessment routines, I met with a colleague to get another perspective on my practices and action plan. Fortunately, I was also part of a Professional Learning Community (PLC), discussing assessment practices, as I noted in Chapter Three. Our group had a meeting right in the middle of my two-week study period, which gave me an opportunity to bring up my project for more discussion with colleagues. We talked about the “living contradiction” (Samaras & Freese, 2009) all teachers face when they know that better methods exist but are not implemented. Talking with a group of teachers representing each grade level provided opportunity to stretch perspectives outside our individual classrooms and consider assessment challenges from kindergarten through middle school. I heard echoes of what I personally experienced while implementing new processes: changing habits is difficult and requires focused support. I also heard a strong desire for more collaboration. I am eager for our next meeting, when I can share the results of this study with my PLC team.
A challenge that I discovered, and an oversight in my planning, was formal self-reflection. Effective teachers constantly reflect on their lessons, making mental notes of what went well and what needs to be changed. I practice this self-assessment in an informal way throughout the day, and approached this project with a similar reflective process. In doing so, I lost the opportunity to capture my thoughts for future reference, both in this paper, and in my own planning. Looking back, I should have planned a formal reflective process. This is supported in the literature on self-study; reflection with a colleague is powerful, but self-reflection is the core of this research. I could have kept a journal, or left post-its with my thoughts stuck to my lesson plans. I could have selected several questions I would respond to at the end of the lesson or day, to see how my responses changed over time. For any self-study that spans a long period, formally tracking the reflective process is essential.

Summary

For my self-study, I reflected on that process of modifying my spelling instruction to bring it into alignment with research-based best practices. This investigation was designed to provide insight into my research question, How can teachers use research-based strategies to support elementary students as they develop spelling skills? As I researched best practices in spelling instruction, I wondered why so few teachers used evidence-based practices. I found that the techniques I used were more engaging to students, but also more work for the teacher. Involving students in tracking their learning through logs, goal-setting and specific feedback gave them focus in their work. The time I spent analyzing and reviewing student
work was considerable, and not commented on in the research I found. Finally, I confirmed my prediction that adjusting previously-established routines that are already in place was more sustainable than implementing brand-new techniques and routines.

Of the three new techniques I implemented, I found goal-setting during conferences to be most the useful to both me and my students. Taking time to analyze spelling in authentic writing gave me a much more detailed picture of my students as individuals, and setting a specific goal for each child focused their learning. Using their writing journals gave me a better sense of how well my students had mastered different spelling patterns, rather than how many words they had memorized for a test. Their writing also gave me a broader sense of their abilities, as opposed to a spelling list or word sort, which has a tight focus.

I am convinced that formative assessment from authentic sources should be included in my data collection, along with a developmental inventory and weekly spelling lists. I have found one system that complements a routine I am already using, and it gives me a fuller picture of my students as spellers. Collaboration will be vital as I continue to reflect upon my practice.

Now that my self-study is complete, I am able to look back on the entire process and evaluate its effects, assess limitations and contemplate future steps I can take to continue looking for answers to my question, How can teachers use research-based strategies to support elementary students as they develop spelling skills?
CHAPTER FIVE

Conclusion

Introduction

In Chapter Four, I presented the results of my self-study after two weeks of adjusting my assessment practices in spelling instruction. My reflection on the process of changing instructional habits provided insight into my question, *How can teachers use research-based strategies to support elementary students as they develop spelling skills?*, but I am far from having all the answers. In this chapter, I will summarize my project, synthesize important findings, discuss the limitations inherent in my study and propose future research.

Overview of Chapters One through Four

I began researching spelling instruction because of my personal struggle with learning to spell, and my subsequent uncertainty in teaching it. I was driven to improve my own practice by finding a better way to teach spelling so my own students would develop the confidence I lacked.

When I began reading the literature on spelling development and instruction, I discovered the complexity of our spelling system, but also the predictability of patterns that exist therein. I became fascinated by the evolution of the English language as well as the explanations for spelling quirks that my teachers had written.
off as simply more examples of the inscrutability of our language. The most
important research I read focused on specific practices that are effective, as well as
those that are not. I sorted these findings into three main areas: selecting spelling
words, assessing spelling development and planning effective lessons.

As I reviewed research on spelling, I always thought about the teacher in my
research question. I knew that I was that teacher, and I wanted to improve my own
teaching to bring it more in line with best practices. In Chapter Three, I described
my rationale for choosing a self-study model for my research. I narrowed my focus
to formative assessment in spelling and planned a two week period to implement
and reflect on the use of these new techniques. I discussed my findings in Chapter
Four, describing the increase in student engagement, the extra planning required
and the importance of collaboration.

When I formed my research question four years ago, I knew that I would not
have a full and complete answer at the end of this project, if such a thing is even
possible. My final task is to synthesize my findings, identify the limitations of my
self-study, and plan the future steps for my research.

Connections to the Literature Review

I began my self-study by reviewing research on effective practice in spelling
instruction. From there, I distilled a personal checklist of important research. While
it would be difficult to limit the entire field into a few bullet points, some distinctive
elements of effective instruction stood out:
• Spelling should be viewed through a developmental lens, and instruction is more effective when it aligns with a student’s ability level. (Geshmann & Templeton, 2011; Templeton & Morris 1999; Gentry, 2000)

• Teachers must include some direct instruction in spelling. (Schlagal, 2002; Butyniec & Woloshyn, 1997)

• Effective spelling activities include some analysis or sorting by the student, requiring them to look for the patterns in words. (Templeton & Morris, 1999; Hauerwas & Walker, 2004)

• Activities that involve copying, rewriting or using words in sentences are not effective. (Schlagal, 2002)

From my classroom study of formative assessment practices in spelling, I learned about the importance of authentic assessments, student motivation and the need for collaboration between teachers. Alderman and Green’s (2011) assessment recommendations weave through my work and provided the inspiration for my project. They make a strong case for portfolios full of writing samples, word logs that track progress over time, and individual goal-setting. Templeton and Morris (1999) emphasize the need for a multi-faceted assessment approach; weekly test scores do not provide a complete picture of a student’s ability. Indeed, when I looked into my students’ writing, I clearly saw the benefit of formative assessment and the use of authentic sources.

I also observed an increase in the motivation and interest my students showed during my self-study, as Alderman and Green predicted in their research. They explain processes such as goal-setting, making a personal word wall or
tracking errors produce more engaged students who show more growth over time. They also suggest using self-evaluations, which is a further step I could take as I become more comfortable with the new routines. I do wonder if there is some impact from the novelty of a new routine, and the motivating effect will wane over time. According to Alderman and Green, this will not be the case, and I am anxious to test their assertion.

When I revisited their article, I am now struck by the type of classroom Alderman and Green describe. I have made some small changes in my instruction, but my instruction still differs from their recommendations (and others described in my literature review) in significant ways. As I think about ways to further adjust my instruction, I question whether there is a place for basal-style weekly tests, since my findings in research are suggest otherwise.

Limitations

The most significant limitation of this study is the two-week time frame. Given more time, I could have seen more progress or had an opportunity to modify my assessments as I used them. A trimester-long study would provide more time and flexibility to fully observe the adoption of these formative assessments, observe more growth in student’s performance and habits and measure the impact of my new practices.

Another limitation is the narrow focus on assessment. Spelling instruction is a broad topic, and given my two-week time frame, I chose assessment, specifically formative assessment, because this tight focus suited the brief schedule. Once I began my study, it became apparent how intertwined the aspects of instruction are,
and how changing my assessment practices rippled into my lesson planning and routine management.

**Future Research**

My driving question, *How can teachers use research-based strategies to support elementary students as they develop spelling skills?* was broad and not possible to fully answer in the scope of a capstone project. As my self-study demonstrates, I have more questions about how teachers can bring their spelling instruction into alignment with evidence-based practices.

Spelling instruction is a broad topic, including assessment, classroom activities, writing, and lesson structure. During the course of my research, I learned that many common practices have been shown to be ineffective and sometimes even *detrimental* to student progress. After discussing the “living contradiction” between what we know to be best practice and what we actually do, I wonder what the best method is to encourage teachers to challenge current practices and examine them in light of what research shows to be effective.

I hope to begin a conversation in my school about spelling instruction. Whether it be in the form of a study group, a presentation during workshop week, or even a simple handout, I want to share what I have learned about spelling instruction with my colleagues. Working with adults through professional development is one of my growing interests; sharing what I have learned about spelling and the self-study process is a natural next step, both for my professional life and for this project.
As I mentioned, I question the use of basal lists and would like to challenge myself and my colleagues to consider alternative instructional methods. I know from my self-study experience that changing routines is difficult, and the temptation to return to “old” ways is strong. Based on my PLC experience, I believe that opening a dialogue around best practices is valuable and necessary of real change is to be realized.

Finally, some of the most striking research that I read spoke of the lack of preparation teachers receive in orthography. Learning more about our language system made clear how much more there is to learn. When colleagues asked about my research, I heard many express interest in more training to get a better understanding of spelling, not only how to teach it, but the inner workings of the English language. I am now a better advocate in my community, requesting that my administration provide more development opportunities, encouraging colleagues to seek out opportunities of their own, and committing to continue adjusting my own spelling instruction.

Even larger questions loom on the horizon, looking to the future of spelling instruction. How will technology impact the usage of spelling in daily life, and what supports can it offer to struggling spellers? Will spelling go the way of handwriting, written off as an obsolete skill? Common Core State Standards are too new to fully appreciate the impact on instruction, yet one wonders how schools will interpret the single standard that vaguely addresses spelling. Consider also the parents’ role in spelling, an important thread only hinted at in the section on inventive spelling in Chapter Two. Clearly, there are many topics left to explore.
Summary

I am an avid reader, but as much as being a “book worm” is part of my identity, so too is the label of “bad speller.” Technology and spell-check have helped hide my difficulty; I am accustomed to red lines peppering my papers. When I began teaching first grade, I needed a better way to explain to my students how to unlock the secret code of spelling that had for so long eluded me. I decided to pursue spelling instruction for my capstone, in hopes of finding an answer.

In the course of research, every article offered an “aha!” moment, or a flash of recognition in the students described in the studies. I found that the English language is not as inscrutable as I had thought, and that some teaching methods are more effective than others. I discovered that researchers have known for decades that there are better ways to teach spelling, yet most teachers still rely on the memorization and copying techniques they themselves had experienced as students. For me, the question shifted: no longer what methods are most effective, but now how to use these methods. How could I use these in class? How could I adjust my routines to allow space for new activities? How can teachers use research-based strategies to support elementary students as they develop spelling skills?

I now have a better understanding of how to evaluate spelling activities. I have tried implementing some new techniques in my classroom and collaborated with colleagues. The process has left me with a sense that this is the beginning, not the end. Spelling is a broad topic that encompasses assessment, reading and writing, parent communication, direct instruction and homework considerations. My work with formative assessment can lead to other subject areas as well. Instead of feeling
finished, I feel that I have taken the first step in a journey. Completing this project has helped set the course and identify mile markers, but my journey is far from complete.
REFERENCES

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Appendix A: Consent Letter

Dear Parent or Guardian:

I am completing a master’s degree in literacy education at Hamline University in Saint Paul. As part of my work, I hope to conduct research in my classroom from December 7th to 18th, 2015. I am writing this letter to ask your permission to include your child in my research.

My project involves the way I assess spelling development and monitor student progress. All students will participate in normal spelling instruction, activities and assessments or tests. I will collect student work samples, test scores and spelling notebook samples to include in my research. I may also interview students about their spelling strategies.

All students will participate in spelling lessons, which are standard first grade activities. For students with permission to participate in the research, I may use their work, verbal conference comments or test scores in my final report, documenting my use of assessment tools.

If your child participates in my research, his or her identity will be protected. No real names or identifying characteristics will be used. All results will be confidential and anonymous. This eliminates risks for your child and other participants. Participation in this project is voluntary, and will not affect the student’s instruction or grade. In addition, you or your child may decide not to participate at any time without any negative consequences.

I have already received permission to do this research from my principal, Mrs. Sue Kerr, as well as the Hamline University Graduate School of Education. The final product will be a printed, bound thesis that will be shelved in Hamline’s Bush Library. The abstract and final project will also be stored in the Bush Library Digital Commons, a searchable electronic catalog which is publicly available to other researchers. The research may also be used in education publications or reports in the future. In all cases, your child’s identity will be kept confidential.

Please return the permission form on the second page by ____. If you have any questions, please call me: 612-920-9075 or email me at bberger@carondelet-mpls.org.

Thank you for your support.
Appendix B: Spelling Gradebook, Google Document

This is an example of the gradebook I keep as a Google Document. I record my gradebook online, so I can access it from many devices, making grade keeping easier. I also record the mistake. This gives me much more information than only recording the words each student missed. Because my school year is divided into trimesters, my gradebook reflects that. Here is how I organize the information:

<table>
<thead>
<tr>
<th>(Student’s number)</th>
<th>(Student’s name)</th>
<th>Trimester 1</th>
<th>Trimester 2</th>
<th>Trimester 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>(word missed)-(misspelling from the test)</td>
<td>Jane</td>
<td>sick-scick</td>
<td>chest-the-st</td>
<td>rich-rich</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>shed-thed</td>
<td>which-wich</td>
</tr>
<tr>
<td></td>
<td>Joe</td>
<td>pet-pit</td>
<td>chest-the-st</td>
<td>match-motch</td>
</tr>
<tr>
<td></td>
<td></td>
<td>bug- bu</td>
<td>shed-thed</td>
<td>lunch-lonch</td>
</tr>
<tr>
<td></td>
<td></td>
<td>pet-pit</td>
<td>time-tim</td>
<td>much-moch</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>bike-bicke</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>flake-face</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>snake-snace</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>bake-bace</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Jack</td>
<td>sick-sik</td>
<td>when-wen</td>
<td>sail, sal</td>
</tr>
<tr>
<td></td>
<td></td>
<td>shut-sut</td>
<td></td>
<td>Spray, sprai</td>
</tr>
</tbody>
</table>

Notice that “Jane” made no errors in the third trimester yet.

(Created by Brigid Berger)
Appendix C: Writing Goals Worksheet

### Writing Goals

<table>
<thead>
<tr>
<th>Date</th>
<th>Spelling</th>
<th>Editing</th>
<th>Ideas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goal:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Notes:</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Date</th>
<th>Spelling</th>
<th>Editing</th>
<th>Ideas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goal:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Notes:</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Date</th>
<th>Spelling</th>
<th>Editing</th>
<th>Ideas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goal:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Notes:</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(Created by Brigid Berger)
Appendix D: Sample of Student Spelling Log

Used with permission

# Appendix E: Sample Spelling Group Planning Sheet

## Spelling Groups

<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>JB</td>
<td>EM</td>
</tr>
<tr>
<td>JC</td>
<td>AM</td>
</tr>
<tr>
<td></td>
<td>SA</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>TS</td>
<td>TD</td>
</tr>
<tr>
<td>ES</td>
<td>LW</td>
</tr>
<tr>
<td>ST</td>
<td>SO</td>
</tr>
<tr>
<td>EJ</td>
<td></td>
</tr>
<tr>
<td>RS</td>
<td></td>
</tr>
<tr>
<td>JO</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Other Vowels (WTW-11/2015)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>EO</td>
<td></td>
</tr>
<tr>
<td>PN</td>
<td></td>
</tr>
<tr>
<td>JC</td>
<td></td>
</tr>
</tbody>
</table>

**Notes:**

(.created by Brigid Berger)