The Effect of Supplementing Whole Group Spelling Instruction with Small Group Instruction on the Spelling Achievement of First Grade Students

By Ophelia Baker

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ABSTRACT

The purpose of this study was to determine the impact of supplemental small group spelling instruction on the spelling skills of first grade students. The researcher wished to examine the effects of providing a more direct method of instruction on the ability to spell novel words in isolation. Students initially were assessed on their differentiated spelling levels using the Words Their Way Spelling Program. Based on these assessment results, students were placed in homogenous groups, half of which received the supplemental intervention and half of which received only whole group spelling instruction. Pre and post-intervention data were compared for three units over a six-week period. Results indicated that there was not a significant difference in the spelling gains of the treatment and control groups. However, the treatment group did exhibit slightly larger gains than the control group in all three units assessed.

The findings suggested that small group spelling instruction should continue as it has a positive impact on students' spelling abilities, and provides teachers with data to help make instructional decisions. Identifying ways to implement the instructional groups most efficiently and to have the most benefit warrants further study.

CHAPTER I

INTRODUCTION

Overview

The abilities to spell and recognize common spelling patterns in words play an important role in students' literacy success in school. Students are required to read and write fluently and master specific skills to enable them to move on to more rigorous literacy-related tasks. To read and write fluently, students must have strong skills in phonemic awareness, phonics, and vocabulary. Adequate spelling instruction provides students with the opportunity to build on these skills.

Unfortunately, however, before spelling is fully mastered, a majority of instructional time is spent on tasks relating to comprehension as opposed to focusing on underlying spelling skills needed for fluency. When instructional time in the classroom is devoted to spelling, it often is in the form of a brief whole group lesson with little to no differentiation. A lack of differentiated, direct instruction on spelling patterns and skills may result in students having difficulties decoding and encoding words, which will negatively affect their fluency in reading and writing. Snow (2005) as cited by Moats (2006, p. 12) states that "spelling and reading build and rely on the same mental representation of a word. Knowing the spelling of a word makes the representation of it sturdy and accessible for fluent reading." For the most beneficial spelling instruction, students need to be placed in small, homogeneous groups where the lessons are modified to meet their current instructional needs. "Teachers should be able to assess the needs of individual students and tailor instruction to meet specific needs" (Maslin, 2003; as cited by Ivernizzi & Hayes, 2004, p. 9). Providing students with direct instruction on spelling patterns and

skills may increase the probability that they will be able to apply spelling rules to new and unfamiliar words in their reading and writing.

Statement of Problem

This researcher, a first grade teacher, observed that her students were not applying spelling patterns and strategies to unfamiliar words in reading and writing. She wished to examine the effects of providing a more direct method of instruction on the spelling skills of first grade students.

Hypothesis

This study was designed to determine whether students who received supplemental structured small group spelling instruction would be able to spell and apply spelling patterns to novel words more accurately than students who participated only in the typical whole group instruction. The null hypothesis tested was that the mean gains in unit spelling test scores would be statistically equivalent for students who received supplemental small group instruction and for those who received only the regular, whole group instruction.

ho: mean gains on unit spelling test scores of students who receive supplemental small group instruction= mean gains on unit spelling test scores of students who receive only whole group instruction

Operational Definitions

Small group instruction consisted of a 15-minute lesson, twice a week, with no more than six students per small group. The lessons were provided at a table in the back of the classroom intended for small group instruction. The lessons included learning how to sort spelling words based on the identified spelling patterns and skills, as well as various activities to enrich students' spelling strategies.

Whole group instruction consisted of one 15-minute lesson, offered biweekly, for the entire class of 26 students. These lessons involved students sitting on the carpet in front of the board and being introduced to every group's spelling list for the unit by the teacher. An introduction of the spelling list included students being told the spelling pattern for the unit, as well as sorting a sample of eight to ten words from their list based on the spelling pattern.

CHAPTER II

REVIEW OF THE LITERATURE

Overview

This literature review examines issues related to the teaching of spelling words and patterns in small group settings to young students. Part one discusses the importance of intentional spelling instruction. Part two examines the relationship between spelling instruction and reading. The relationship between spelling instruction and writing is the focus of part three. Part four describes typical spelling instruction/word study in classrooms. The rationale for whole group spelling instruction/word study is discussed in part five. The literature review concludes with an exploration of best practices for spelling instruction/word study in part six, and a discussion of spelling and stages of learning in part seven.

The Importance of Intentional Spelling Instruction

Spelling instruction frequently is overlooked in education. Often it is not given the amount of instructional time it merits, or it is viewed merely as a supplemental skill in the classroom. "Often viewed as a supplemental skill along with handwriting, grammar, and punctuation, spelling instruction has been relegated to a small slice of today's curriculum" (Sayeksi, 2011, p. 75). Most instructional time in language arts is spent focusing on "core" skills such as reading and writing. When spelling is included in the classroom, it often is in the context of a literacy center on which students work independently.

Spelling is a vital component in education, and should be treated as such, because it is connected and fundamental to reading and writing in many ways. Sayeski, (2011) states that "good spellers are good readers, and learning spelling can enhance students' reading and writing

abilities" (p. 75). Providing students with spelling instruction helps them to become better readers and more proficient writers, which can lead to greater academic achievements.

Relationship between Spelling Instruction and Reading

"Accurate spelling reflects more advanced linguistic knowledge because it requires the integration of phonological, orthographic, and morphological knowledge" (Reed, 2012, p. 5). The relationship between spelling and reading is well supported, as "research has shown strong, significant correlations between spelling ability and reading performance, ranging from .68 to .93, and has demonstrated the predictive powers of decoding and spelling performance on future reading and spelling abilities" (Christo & Davis 2008; Mehta, Foorman, Branum-Martin, & Taylor, 2005; Ritchey, 2008 as cited in Weiser & Mathes, 2011, p. 171).

To effectively comprehend a text, readers need to be able to understand the words they read and read them fluently. The ability to spell words correctly is a major influence on reading fluency and comprehension. The ability to spell has been found to have a positive effect on students' reading performance. Ivernizzi and Hayes (2004) note that, "intervention studies exploring the added value of supplemental spelling instruction have repeatedly found that students who receive additional spelling instruction perform better on reading tasks such as oral reading, silent reading comprehension, and other reading-related measures in addition to spelling" (p. 225). Providing students with spelling instruction benefits their reading because they can apply their knowledge of spelling patterns and word recognition to read new and/or challenging words more easily, which enhances fluency and allows them to focus on comprehension versus decoding.

Moats, (2006 p. 42) describes the relationship between reading and spelling by stating the

following:

> For young children, research clearly indicates that spelling supports learning to read, and for older children, it's likely that learning about the meaningful relationships between words will contribute to vocabulary growth and reading comprehension.

Understanding spelling patterns, as well as word roots, helps students' identify words more quickly, allowing for more time to be spent on comprehending the text.

Relationship between Spelling Instruction and Writing

"Spelling is the application of phonemic awareness and alphabetic knowledge to letters in an accepted orthographic or writing system" (Sayeski, 2011, p. 76). As it does with reading, spelling has a strong influence on students' writing performance and perhaps their motivation to write. For students to communicate correctly in writing, they need to be able to distinguish the different sounds they hear, relate those sounds to letters, and then properly combine those letters to form accurately spelled words. Berninger, (2002) states, "It is critical to help students develop spelling skills to meet their academic, vocational, and social needs. Improved spelling skills may positively impact students' motivation to communicate through writing" (Masterson & Apel, 2010, p. 185).

The writing process is a complex process involving many components, which students must remember and apply. Moats (2006) reiterates the complexity of the writing process, claiming, "even more than reading, writing is a mental juggling act that depends on automatic deployment of basic skills such as handwriting, spelling, grammar, and punctuation so that the writer can keep track of such concerns as topic, organization, word choice, and audience needs" (p. 12).

Providing students with adequate spelling instruction can improve their writing fluency. It can help them develop more rapid word recall, as well as the ability to more automatically apply spelling patterns and strategies to unfamiliar words when writing. “Spelling is an important component of learning to write, for being able to spell fluently allows young children to focus on the message they are composing and the message they wish to create” (Williams & Hufnagel, 2005, p. 233). Poor spellers may spend excessive time thinking about how to spell and consequently lose track of their thoughts. Other times, they may confine their vocabulary only to those words which they are sure they know how to spell, consequently limiting the creativity of their product and their confidence about expressing their ideas in writing. These points support the observation of Newlands (2011) that “The goal of effective spelling instruction is to create fluent writers, not perfect scores on the spelling test” (p. 531).

Typical Spelling Instruction/Word Study in Classrooms

Teachers teach spelling in varied formats and using different methods of assigning words for students to learn to spell. As discussed by Masterson and Apel (2010), there is no general consensus on how to teach spelling most effectively as “methods for helping students improve their spelling abilities have varied over the years” (p. 185). For example, one teacher may teach her students word study in small groups every other day, while another may teach word study to the whole group once a week. Selected interventions may not work for all students and students exposed to various approaches may benefit only from some, if any, of them. Additionally, spelling instruction differs in classrooms in how word lists are selected for students to learn.

As summarized by Sayeski, (2011) there are three basic approaches to classroom spelling instruction: incidental, developmental word study, and basal spelling programs. Incidental

spelling instruction focuses on errors that students make in their writing, or uses words from content area instruction. Developmental word study is based upon stage theory and makes use of word sorts and attention to spelling features to address students' spelling needs as they progress through the spelling stages. Basal spelling programs move from less to more complex English orthography and typically are provided by grade level. For example, second grade students would focus on second grade level words.

Most often, spelling is used instructionally wherein students are required to complete activities that focus more on memorization than on learning common patterns and making generalizations about spelling. Alderman and Green (2011), note, "practicing a list of words over and over, trying to perfect them, can diminish motivation [in students]" (p. 600). The method of memorizing word lists, however, is not beneficial to struggling spellers because they often are required to "just" learn to spell the words they had for the week, but are unable to apply strategies to spell similar words. "Students who struggle with spelling would likely benefit from instruction that emphasizes and encourages the use of their linguistic awareness skills rather than instruction that focuses on memorization of a set of specific words" (Masterson & Apel, 2010, p. 187). This type of instruction would be reflected in a developmental word study approach to teaching spelling.

Rationale for Whole Group Spelling Instruction/Word Study

With all of the demands that are present in the classroom, there are benefits to teaching spelling as a whole group activity. In most classrooms, part of the literacy block is used for instructing students in guided reading groups. Williams and Hufnagel (2005) found that teachers in their study were "already grouping the children for guided reading instruction; it did not seem

feasible or desirable to also group for word study" (p. 259). For a classroom of 25 or more students, small group instruction may require four to five different small groups, each of which receives 15-20 minutes of separate instruction. Therefore, it may not always be feasible to group students for spelling instruction in addition to reading. Whole group instruction allows time for more material to be offered.

Williams and Hufnagel (2005) observe that when using a whole group approach, the teacher also is able to involve all the students simultaneously. Students are able to learn from their peers while sharing their responses with the teacher or a partner. Whole group instruction also is beneficial for younger students because it provides opportunities to focus on their speaking and listening skills.

Rationale for Small Group Spelling Instruction/Word Study

As with reading instruction, there is no single best way to meet the learning needs of all students within a classroom. Schlagal (as cited in Sayeski, 2007) observes that teaching students in small groups may be the most appropriate approach to spelling instruction for diverse learners because teaching spelling in this way can provide opportunities for differentiation. It is not instructionally appropriate to assign students spelling words that are too hard or too easy; students would become easily frustrated with words that are too difficult and there is no challenge with words that are too easy. This researcher states, "Grade-level spelling instruction does not benefit learners who are below or above grade level" (p. 77).

As discussed by Notelmeyer, Joseph, and Kunesh (2013), working with small groups of students can provide teachers with better insight about how individual students are learning the information. "Supplemental small group instruction can address the specific needs of students

who are at risk of failing to develop basic literacy skills" (p. 122). Teachers are able to work closely with students, hear original ideas and provide immediate corrective feedback for misspellings of words. Furthermore, many young students are intimidated when participating in a whole-group learning environment. Teaching students in small groups can increase involvement from those students and make lessons seem less intimidating. Williams and Phillips-Birdsong (2006) have completed research that supports the benefits of small group spelling instruction and note that "the findings suggested that a small-group, instructional-level approach was necessary for optimum results, even in the kindergarten setting" (p. 428).

Best Practices for Spelling Instruction/Word Study

As previously stated, every student is different and it is beneficial to assess where they are developmentally and then provide the appropriate instruction. Otaiba and Hosp (2010) support the need for data-driven decision-making, stating that, "to most efficiently and effectively align intervention with student needs, it is vital to accurately identify which students are not mastering reading, spelling, and writing skills" (p. 4). Once students' spelling levels have been determined, students can be grouped homogenously for the most effective instruction, which includes providing students with individualized spelling lists. "Teachers need to consider different word lists for individual students within the same classroom; different word lists need to be assigned that vary characteristically in terms of letter pattern and syllable difficulty" (Wallace, 2006, p. 273).

Based upon results from four research projects and related literature, Williams, Phillips-Birdsong, Hufnagel, Hungler, and Lundstrom (2009) provide several recommendations on effective ways to implement word study instruction within the classroom. These

recommendations include those summarized below.

- Assess students' word knowledge using multiple assessment tools to determine their prior knowledge. This information can guide instructional planning.
- Use a homogenous small group approach to instruction to meet the students' instructional needs.
- Establish time to prepare for word study instruction. For a word study program to be successful, the teacher needs sufficient time to prepare for daily instruction and word work activities.
- Teach word knowledge, not just words. Students should learn *about* words, not just how to spell words. Focus word study lessons on the way English words work, so that students can form useful generalizations that they can apply to words they want to read or spell.
- Demonstrate how word study can be used during reading and writing. Students may not comprehend the link between word study and reading and writing development and need modeling.
- Teach strategies that support students' use of word study instruction. Students need to be taught how to use word study during their reading and writing both independently and strategically.
- Create and use a word wall. The word wall should be clearly visible, accessible, and used frequently as a teaching tool to help students learn to use it as a resource for their writing.
- After introducing a specific orthographic feature/principle, give students ample opportunities to explore it through hands-on games and activities.
- Engage students in extensive "real" reading and writing. Students should be provided with opportunities for extended, authentic reading and writing activities wherein they are encouraged to read and compose texts on topics of their choosing.

Williams, et al. (2009), have found that using these approaches to word study programs integrated into a comprehensive literacy program supports children's literacy development.

Spelling and Stages of Learning

It is important to understand that all children do not come to school knowing how to spell or having awareness of the different strategies they can use to read and write words. As stated by McQuirter (2007), "becoming a competent speller is a lifelong pursuit that is complex and iterative" (in Sayeski, 2011, p. 76).

When determining the best practices for effectively teaching spelling/word study it is essential to understand students' stages of word development. "Research on spelling development shows that as students grow in their spelling ability, they will move from partial analysis of speech sounds to conventional sound-to-letter mapping to sound-pattern representation to meaning-pattern representation" (Sayeski, 2011, p. 76).

Wallace (2006) has characterized several stages of spelling development through which school-aged children hypothetically progress. The first stage is letter name spelling. In this stage, children aged five through nine compare and contrast short vowel word families and focus on the sound and spelling of words containing one short vowel, then compare across short vowel patterns. The second stage is within-word pattern spelling. In this stage, children aged six through 12 spell words with long vowel patterns and complex single syllable words. Syllable juncture spelling is the third stage. In this stage, children aged eight through 14 spell words using rules of syllabication, common affixes, verb tenses, and low-frequency vowel patterns. The fourth and final stage described by Wallace is termed derivational constancy spelling. In this stage, children aged 10-18 connect meaning to the spelling words through the use of similar bases and roots.

Understanding the developmental stages of spelling is crucial to understanding how students learn and how to teach them effectively. Assessing students' word knowledge, then providing them with word lists on their instructional level is most beneficial to their learning.

Summary

Spelling is a complex skill and a fundamental component of competence in reading and writing. Based on this review of the literature, it is a subject that should not be treated merely as a supplemental skill. Spelling instruction should be given careful consideration and should be integrated into the daily literacy block for classroom instruction. Teachers should take the time to understand the characteristics of effective spelling instruction and develop effective word study lessons to reach their learners most effectively. "Rule-and morpheme-based instructional approaches foster the generalization and transfer to spelling knowledge across a range of words" (Sayeski, 2011, p. 80). When students are taught spelling in ways that extend beyond rote memorization, they will be able to apply word patterns to unfamiliar words, resulting in more fluent reading and more expressive writing.

CHAPTER III

METHODS

Design

This study used a quasi-experimental pretest-posttest design to examine the effect of small group instruction on students' spelling achievement. The independent variable in this study was the method of instruction provided to the participants, which was either whole or whole plus supplemental small group instruction. The dependent variable was each participant's gains in scores on spelling unit tests. Gains were computed by subtracting pre-test scores from post-test scores.

The treatment group received small group instruction twice weekly on various spelling patterns and skills related to the words they were assigned and on which they were assessed at the end of two weeks. The control group received regular whole group instruction once every two weeks and worked with the same words as the treatment group for two weeks at home and independently during word work rotations during the daily literacy block.

Participants

The participants in this study were 22 students in the researcher's first grade classroom from a suburban elementary school in Maryland. The majority of the population was Caucasian and African American. Ages of the participants in this study were between six and seven years old.

All participants were pretested using the Developmental Spelling Assessment (DSA) at the beginning of the school year and placed into spelling groups (stages). Biweekly, all students were assigned a new set of 20 to 25 spelling words from their initially determined stage. The

students worked on their assigned words for homework Monday through Thursday, and then took a spelling test at the end of two weeks. The students in the class were achieving in one letter pattern stage (within word pattern), but they were learning at four different paces, and were grouped according to their paces. Due to the way in which the whole group instruction was taught, all students were introduced to the words assigned to each group; however, they were expected to study and take tests only on the words assigned to their similarly paced group. As students completed a word list, they proceeded to the next list in the cycle that the original DSA results suggested targeted their needs, regardless of how they performed on the test.

Instruments

The Developmental Spelling Assessment (DSA)

The *Developmental Spelling Assessment (DSA)* from the *Word Journeys Spelling Program* (The Guilford Press, 2000) was used to assess and build students' word knowledge. It included a dictated word inventory during which the instructor read a spelling word, read the word in a sentence then repeated the word, while the students spelled the word to the best of their ability. The DSA assessment consisted of 25 words and was intended for use in grades one through six.

The *Words Their Way Spelling Program*

The *Words Their Way Spelling Program* (Pearson, 2011) is used at the researcher's school to supplement the DSA. The *Words Their Way Spelling Program* is used in addition to the DSA to assess and build students' word knowledge. This program includes books for each word stage, Letter Name, Within Word, Syllables and Affixes, and Derivational Relations, as well as word lists and sorts for student use at each stage.

All 20-25 words to be learned by all students each week were selected to be at the students' appropriate levels from the *Words Their Way* lists every two weeks. Tests were administered to assess students' targeted spelling skills before and after each unit. Examples of the spelling unit pre and posttests are included in Appendices A and B.

Survey

A survey was given to all students in the researcher's class to assess their attitudes towards spelling, how often they work on spelling homework, and if they receive any help while completing their spelling homework. (A copy of the survey, which was developed by the researcher, is found in Appendix D.)

Procedure

The DSA was administered to all 22 participants before this study began to determine their spelling stages and groups for the remainder of the year. For the purposes of this study, 11 students' from the researcher's class were placed in the treatment group and 11 other students from the same class were placed in the control group. The class contains students in four different spelling groups. Dividing the students' spelling groups in half formed the treatment and control groups in this study and helped ensure the treatment and control groups were functioning at similar levels in spelling.

Small Group Instruction

In addition to participating in the whole group instruction with the control group (described below), and being able to choose which words to practice during the literacy block, students in the treatment group received small group instruction twice a week for a period of six weeks on one spelling skill and/or pattern per two-week unit. Students were allowed to choose

the type of words to study during the literacy block. Examples of types of words included sight words, seasonal words, names, or words from their spelling list. Students studied the selected words once a day for 15 minutes. The targeted spelling skills and patterns changed biweekly and were selected from the *Words Their Way Spelling Program*. Word lists and sorts were selected based on how students performed on the DSA. Once an initial stage to begin spelling instruction was determined, students began their study with that list and progressed through the stage accordingly. Students in the treatment group engaged in a variety of spelling tasks with the researcher and a group of no more than six students. Examples of the tasks included word sorts, games that involved applying the spelling skill and/or pattern, changing letter sounds to make new words with the same pattern focus, and using the spelling pattern in everyday words.

Small group instruction was administered twice a week and included one day of introducing the words and their patterns, and another day of practicing various word sorting activities based on their spelling with the small group. The small group sorting activities included having students read the words while determining the spelling pattern and different ways to sort the words. In addition, students participated in a writing sort, a timed sort, and a blind sort (where words were called out but students were not able to see the spelling).

Whole Group Instruction

All students participated in the regular whole group spelling lessons as they had been doing all year, but the control group did not receive any supplemental small group instruction in spelling. Whole group spelling lessons involved the students being introduced to the focus pattern/skill and the accompanying spelling words. After a spelling list was introduced, students then practiced sorting a few of the words from their list on the Smart Board. For example, if a spelling pattern a group was working on included words with long “A” spelled CVCe

(consonant, vowel, consonant, silent e), like “TAPE” or CVVC (consonant, vowel, vowel, consonant), like “RAIN” students would have to identify in what category to put the words. After one spelling list was introduced, students then needed to be attentive as the remainder of the spelling lists were introduced, whether or not they applied to their current instructional needs.

Assessment

All 22 participants were pre-and post-tested bi-weekly on their targeted spelling patterns. The words from the pre and posttest were selected from the students’ biweekly spelling list. Half of the spelling list was selected for each test, with equal numbers of words selected from each spelling pattern that was taught during the unit. (See Appendices A-C for examples.) At the end of three units, the researcher compared the gains in each unit across the instructional conditions to determine if there was a difference in the gains made by the students who received supplemental small group instruction versus those who received only whole group instruction.

CHAPTER IV

RESULTS

This study was designed to determine whether students who received supplemental small group spelling instruction would be able to spell and apply spelling patterns to novel words more accurately than students who participated only in the typical whole group instruction. The null hypothesis stated that the mean gains in unit spelling test scores would be statistically equivalent for students who received supplemental small group instruction and for those who received only the regular, whole group instruction

In order to compare these gains, the gains for each student were computed and descriptive statistics were calculated on them for each unit. These descriptive statistics follow in Table 1 and are disaggregated by the spelling instruction conditions.

Spelling Gains

Table 1

Descriptive Statistics for Gain Scores by Group

Control Group Gains (Whole Group)	N	Range	Mean	Std. Deviation
Unit 1	11	1-5	2.273	1.555
Unit 2	11	-2-4	.909	1.921
Unit 3	11	0-5	1.909	1.700
Treatment Group Gains (Small Group)				
Unit 1	11	-1-7	3.000	2.683
Unit 2	11	-1-8	3.000	3.000
Unit 3	11	0-9	3.909	3.113

Next, the mean gains for all three units were computed for each group. Those descriptive statistics follow in Table 2 and indicate that the treatment group gained a mean of 3.303 points on each of the three units and the control group gained an average of 1.697 points on each unit.

Table 2

Descriptive Statistics for Overall Gains of Treatment and Control Groups

Group	N	Mean	Std. Deviation	Std. Error Mean
Treatment	11	3.303	2.401	.724
Control	11	1.697	1.206	.364

Finally, a *t*-test for independent samples was run to determine whether the two groups' mean gains differed significantly. Results indicated the mean difference of 1.606 between the treatment and control groups' gains was not statistically significant ($t=1.982$, $p < .061$). This suggests that the difference was not large enough to state with confidence that it was due to the spelling intervention. Therefore the null hypothesis was retained.

Table 3

Results of *t*-test for Independent Samples comparing the treatment and control groups' mean unit test gain scores

t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
					Lower	Upper
1.982	20	.061	1.606	.81017	-.08393	3.29605

Equal variances assumed

Survey Data

In order to understand how the students felt about the spelling instruction, they were asked to complete a brief survey before and after the intervention period. Summaries of their responses, disaggregated by group, follow in Tables 4 through 10.

Table 4 lists the items to which students replied "no, sometimes or yes" and presents the frequencies with which students in each group made each reply.

Table 4:

Tally of Responses Given for Pre-and Post-Survey Items 1-5

Survey Item	**1:** Do you enjoy doing spelling HW?		**2:** Do you enjoy working on spelling words doing your Word Work rotation?		**3:** Do you enjoy learning how to sort your spelling words on the Smartboard?		**4:** Do you think learning how to sort your words prepares you for the spelling test?		**5:** Do you think you are a good speller?	
Response	**Frequency**		**Frequency**		**Frequency**		**Frequency**		**Frequency**	
	Control	Treatment	Control	Treatment	Control	Treatment	Control	Treatment	Control	Treatment
PRE										
No	1	3	5	7	4	3	3	3	1	3
Sometimes	6	6	1	2	1	1	2	2	3	1
Yes	4	2	5	2	6	7	6	6	7	7
POST										
No	3	6	3	8	4	5	1	2	0	4
Sometimes	6	3	4	2	1	1	3	3	3	2
Yes	2	2	4	1	6	5	7	6	8	5

The post-intervention survey contained two additional items that inquired about whether or not students felt their spelling ability impacted their reading and writing skills. Table 5 presents a summary of the frequencies of the responses to items 6 and 7 on the post survey.

Table 5

Frequency of Responses Regarding the Perception that Spelling Affects Reading and Writing

	6: Do you think your ability to spell words affects your reading skills?				7: Do you think your ability to spell words affects your writing skills?			
Response	**Frequency**		**Percent**		**Frequency**		**Percent**	
	Control	Treatment	Control	Treatment	Control	Treatment	Control	Treatment
No	1	4	9.1	36.4	2	4	18.2	36.4
Sometimes	2	2	18.2	18.2	4	4	36.4	36.4
Yes	8	5	72.7	45.5	5	3	45.5	27.3

Table 6 contains a summary of responses regarding when (what days) students typically complete their spelling homework at home.

Table 6

Pre-and Post-Survey Item 8:
What days do you usually work on spelling homework at home?

Response	**Frequency**		**Percent**	
	Control	Treatment	Control	Treatment
PRE				
M-TH	8	9	72.7	81.8
Monday	2	2	18.2	18.2
Thursday	1	0	9.1	0
POST				
M-TH	11	9	100.0	81.8
Monday	0	0	0	0
Thursday	0	1	0	9.1
M, W-TH	0	1	0	9.1

Table 7 contains a summary of responses regarding how long students typically work on their spelling homework.

Table 7

Pre-and Post-Survey Item 9*:*

How long do you work on spelling homework at home?

		Pre Survey		Post survey	
GROUP	**Response (minutes)**	**Frequency**	**Percent**	**Frequency**	**Percent**
Control	5-10	3	27.3	2	18.2
	10-15	6	54.5	4	36.4
	15-20	1	9.1	5	45.5
	20+	1	0	0	0
Treatment	5-10	7	63.6	4	36.4
	10-15	0	0	2	18.2
	15-20	1	9.1	2	18.2
	20+	3	27.3	3	27.3

Table 8 contains a summary of responses regarding whether or not students receive help on their spelling homework.

Table 8

Pre and Post Survey Item 10:

Does anyone help you with your spelling homework?

		Pre Survey		Post Survey	
GROUP	**Response**	**Frequency**	**Percent**	**Frequency**	**Percent**
Control	No	1	9.1	4	36.4
	Sometimes	6	54.5	2	18.2
	Yes	4	36.4	5	45.5
Treatment	No	2	18.2	4	36.4
	Sometimes	3	27.3	4	36.4
	Yes	6	54.5	3	27.3

Table 9 presents a summary of frequencies of responses to item 11 on the post survey, which asked, "If you answered 'yes' or 'sometimes' for #10, who helps you?"

Table 9:

Pre-Survey Item 11:

If you answered "yes" or "sometimes" for number 10, who helps you?"

		Pre Survey		Post Survey	
GROUP	**Response**	**Frequency**	**Percent**	**Frequency**	**Percent**
Control	Almost everyone	1	9.1	0	0
	Dad	1	9.1	1	9.1
	Mom	4	36.4	3	27.3
	Mom & Dad	3	27.3	0	0
	N/A	1	9.1	4	36.4
	Sister	1	9.1	1	9.1
	Day Care teacher, Parents	0	0	1	9.1
	Parents, Grandma	0	0	1	9.1
Treatment	Dad	1	9.1	1	9.1
	Mom	3	27.3	1	9.1
	N/A	1	9.1	4	36.4
	Sister	1	9.1	0	0
	"Nobody… I'm too smart"	1	9.1	0	0
	Aunt	1	9.1	1	9.1
	Mom and Dad	1	9.1	3	27.3
	Mom, Dad or Grandma	1	9.1	1	9.1
	Mom, Dad, Grandparents	1	9.1	0	0

Table 10 contains a summary of the responses students provided regarding what kind of help they receive on their spelling homework.

Table 10:

Pre-Survey Item 12:
How does that person help you with your homework?

		Pre Survey		Post Survey	
GROUP	**Response**	**Frequency**	**Percent**	**Frequency**	**Percent**
Control	Helps me cut the words	1	9.1	0	0
	Helps me read the words	2	18.2	1	9.1
	Helps me sort my words	3	27.3	0	0
	Helps me when [it is hard]	2	18.2	1	9.1
	She helps me read and cut words	1	9.1	0	0
	Check my work	1	9.1	3	27.3
	On Tuesday she tells me the word and I try to spell it	0	0	1	9.1
	When I have sentences, my mom writes the sentences on the white board	0	0	1	9.1
	N/A	1	9.1	4	36.4
Treatment	By rewriting my words on a piece of paper	1	9.1	0	0
	Help me cut the words and sort them	1	9.1	0	0
	Help sort the words	2	18.2	1	9.1
	Helps me when I am struggling	1	9.1	0	0
	Nobody helps me because I am too smart	1	9.1	0	0
	Reading, cutting, and sorting the words	1	9.1	0	0
	Reads words to me	1	9.1	3	27.3
	She helps me cut, and read words	1	9.1	0	0
	Check my work	1	9.1	2	18.2
	Help me spell	0	0	1	9.1
	He helps me by giving me a word	0	0	1	9.1
	N/A	1	9.1	3	27.3

CHAPTER V

DISCUSSION

The primary purpose of this study was to determine whether students who received supplemental small group spelling instruction would be able to apply spelling patterns to novel words more accurately than students who participated only in typical whole group instruction. Based on the results presented in Chapter IV, students who received supplemental small group spelling instruction made gains in their ability to spell novel words; however, those gains were not statistically significantly larger than the gains made by the control group. Therefore, the null hypothesis was retained. Following is a description of the results as they relate to the methods and literature reviewed**.**

Implications of Results

Although the first grade students who participated in the supplemental small group spelling instruction did not make statistically significantly larger gains in spelling scores than did the control group, they did make progress, which may indicate success was associated with the supplemental instruction. Students in the treatment group made progress in their spelling as indicated by the mean gain score of 3 points in Units One and Two, and 3.909 points in Unit Three. As the mean gains were comparable to or higher than those of the control group in each unit, the supplemental small group spelling instruction appears to have either had no impact on spelling performance or to have helped the participants overall.

Limitations

Several limitations may have affected the results of this study. The main limitations include sampling issues and the duration of the study.

One possible design constraint that may have affected the results in this study includes sampling methods. While efforts were made to match participants based on initial spelling ability, the sample was a convenience sample. Participants were assigned words of difficulties that were determined to be appropriate for their skill levels; however, the participants in each of the four different groups had varied academic and spelling abilities. A larger or more diverse sample stratified by abilities of interest might have yielded results that indicated more specifically what aspects of the intervention could be beneficial or not and for what particular types of learners. Controlling for gender might also have yielded different results, as males and females have been shown to learn differently.

Another possible limitation to the study was that interruptions occurred during the course of the study. During the six-week study, participants were out of school for six days due to spring break and continued with spelling instruction upon their return. Prior to this six-day break, students were given a week off from doing any spelling homework, spelling classwork, and receiving spelling instruction so that they would receive back-to-back instruction on their spelling words for the third unit. A more consistent intervention schedule and a longer duration for the study using more units might yield different results.

Connections to Previous Studies/Suggestions for Future Studies

The review of the literature indicated that providing students with direct, supplemental spelling instruction not only is beneficial, but also can lead to improvements in reading abilities.

Ivernizzi and Hayes (2004) stated that, "intervention studies exploring the added value of supplemental spelling instruction have repeatedly found that students who receive additional spelling instruction perform better on reading tasks such as oral reading, silent reading comprehension, and other reading-related measures in addition to spelling" (p. 225). In accord with this assertion, all students in this study were explicitly taught spelling as a whole class and the treatment group was provided supplemental small group instruction using the Words Their Way Spelling Program.

Related literature also suggests that providing students with explicit spelling instruction can improve students' spelling and writing abilities. Sayeski, (2011) states that "good spellers are good readers, and learning spelling can enhance students' reading and writing abilities" (p. 75).

Participants' survey responses suggested that more students in this sample felt their spelling skills were related to their reading skills than to their writing skills. While their perceptions may not reflect reality, it is interesting to consider how learners feel about the interventions in which they participate. Their motivation might be affected if part of future interventions includes informing them of the connections which prior research has identified between spelling and other skills.

Additionally, the literature suggests that teachers benefit from instructing students in a small group setting by providing them with the opportunity to collect and analyze informal and formal spelling, reading, and writing data. By working with small groups, students can provide teachers with better insight about how individual students are learning the information and teacher can address the specific needs of students who are at risk of failing to develop basic literacy skills (Notelmeyer et al., 2013).

Future studies should continue to focus upon identifying and developing spelling programs that effectively improve students' spelling abilities. Researchers should take into consideration limitations, which can affect the validity of these studies, such as those noted above. It also would be important to note whether or not participants receive additional support in the development of their spelling and how often they work on spelling outside of the intervention. Survey responses indicate that the majority of the participants in both the treatment and control group worked on spelling homework daily. Additionally, more than half of the participants in the study received help from a parent or other family member when completing their spelling homework. It is important to know how much extra support students are receiving as it may influence the design and findings of future studies.

Although the impact of the intervention was not great enough to determine that the supplemental spelling instruction alone was the cause of improvements in spelling, analysis of the data revealed that growth in spelling did occur for students who received the supplemental instruction. These findings offer encouragement for future study.

Conclusion

The findings in this study support the use of supplemental small group spelling instruction. Participants' who received the intervention improved their spelling performance on each unit. Future study of how to best teach spelling appears warranted, as the study suggested that benefits can result when teachers use informal and formal data to alter instruction and track student progress.

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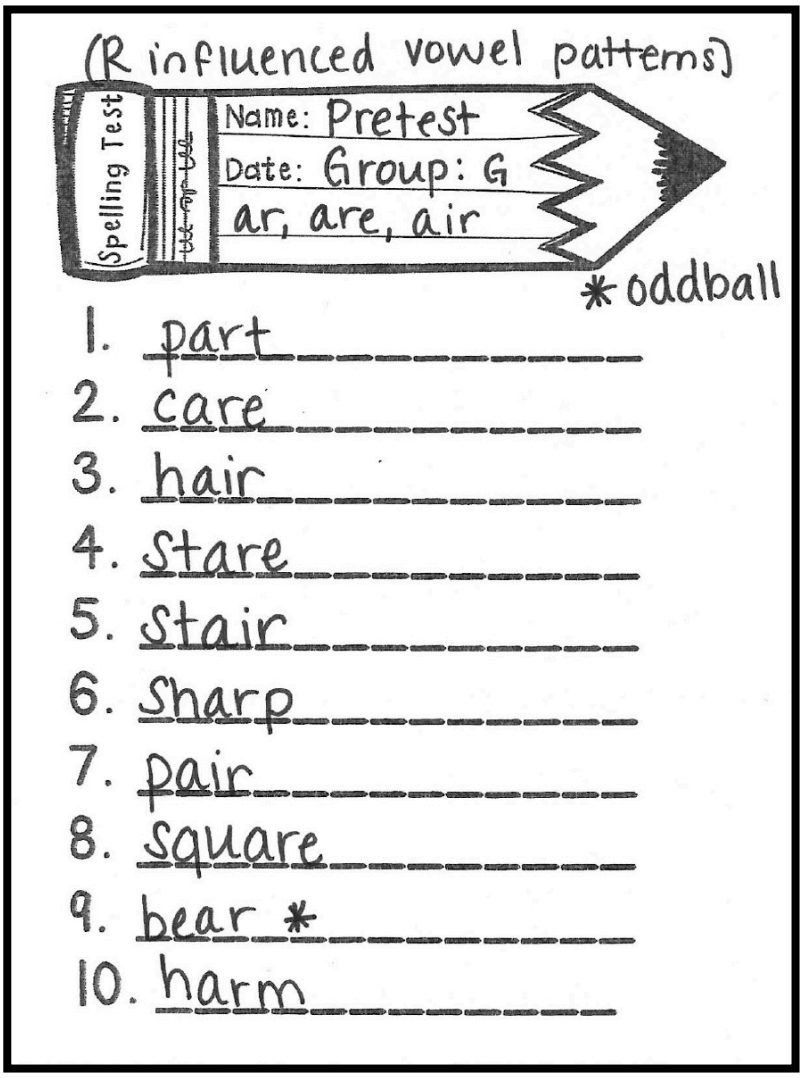
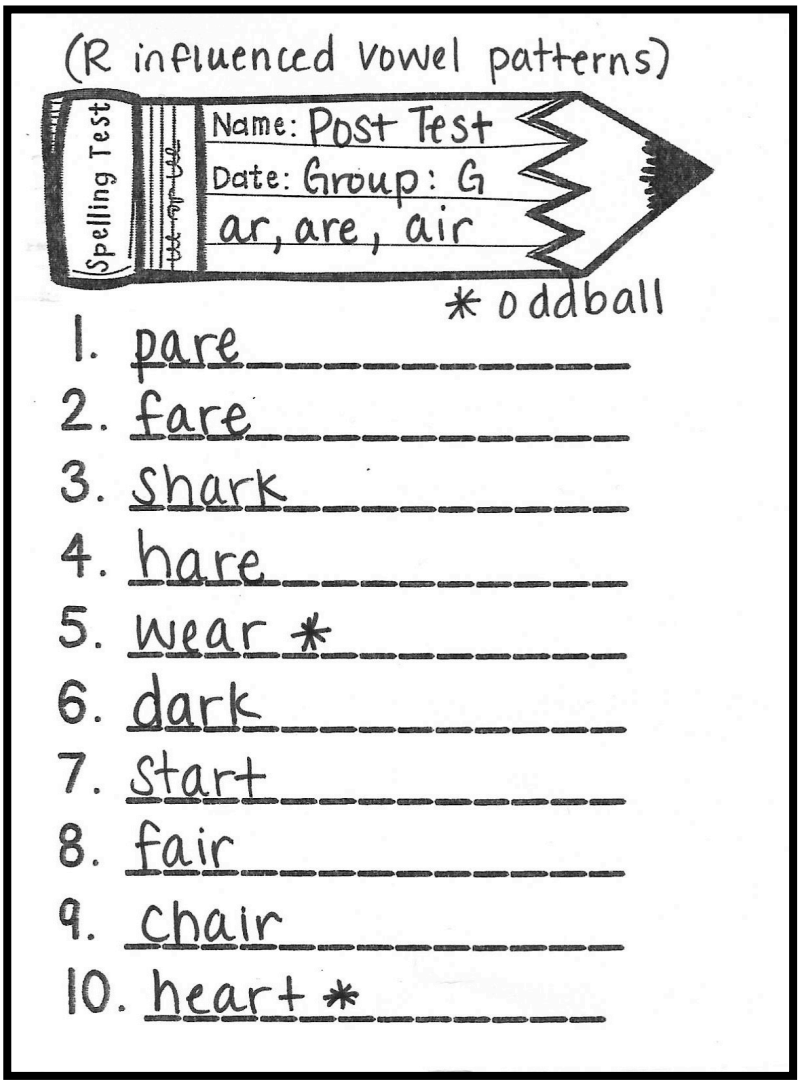
APPENDIX A

BIWEEKLY SPELLING PRE TEST EXAMPLE



APPENDIX B

BIWEEKLY SPELLING POST TEST EXAMPLE



APPENDIX C

BIWEEKLY SPELLING LIST EXAMPLE

WW G

SORT 25 *ar, are, air*

ar	are	air
oddball	care	hair
part	fair	start
harm	pare	chair
wear	sharp	pair
stare	where	dark
square	hare	pear
heart	shark	fare
bear	stair	bare

APPENDIX D

SPELLING SURVEY

Spelling Survey

Name: _____ Date: _____

Circle the answer that best describes how you think or feel about each question.

1. Do you enjoy doing spelling homework?

No Sometimes Yes

2. Do you enjoy working on spelling words during your word work rotation?

No Sometimes Yes

3. Do you enjoy learning how to sort your spelling words on the Smartboard?

No Sometimes Yes

4. Do you think learning how to sort your words prepares you for the spelling test?

No Sometimes Yes

5. Do you think you are a good speller?

No Sometimes Yes

6. Do you think your ability to spell words affects your reading skills?

No Sometimes Yes

7. Do you think your ability to spell words affects your writing skills?

No Sometimes Yes

8. What days do you usually work on spelling homework at home?

Monday Tuesday Wednesday Thursday

9. How long do you work on spelling homework at home?

5-10 min. 10-15 min. 15-20 min. 20+ min.

10. Does anyone help you with your spelling homework?

No Sometimes Yes

11. If you answered "yes" or "sometimes" for #10, who helps you?

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12. How does that person help you with your spelling homework?
