IMPROVING SPELLING ABILITY AMONG SPEAKERS OF AFRICAN AMERICAN VERNACULAR ENGLISH: AN INTERVENTION BASED ON PHONOLOGICAL, MORPHOLOGICAL, AND ORTHOGRAPHIC PRINCIPLES

A Dissertation

by

RAMONA TRINETTE PITTMAN

Submitted to the Office of Graduate Studies of
Texas A & M University
in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

August 2007

Major Subject: Curriculum and Instruction

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Approved by:

Chair of Committee,	R. Malatesha Joshi
Committee Members,	Sharolyn Pollard-Durodola
	John Helfeldt
	Blanca Quiroz
	Bruce Thompson
Head of Department,	Dennie Smith

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ABSTRACT

Improving Spelling Ability Among Speakers of African American Vernacular English: An Intervention Based on Phonological, Morphological, and Orthographic Principles. (August 2007)

Ramona Trinette Pittman, B.S., University of Southern Mississippi;

M.Ed., William Carey College

Chair of Advisory Committee: Dr. R. Malatesha Joshi

Given the importance of the role of spelling in literacy, it is important to have knowledge of the linguistic features that allow students to be successful spellers. Having phonological, morphological, and orthographic knowledge is essentially important to spell conventionally. In the United States, the standard language is Academic English (AE). African American Vernacular English (AAVE) is considered a deviation from AE, with its own sound system. AAVE is the most widely used form of dialect in the United States. Many students who speak AAVE may have difficulties in producing the correct spelling of AE words. The overall purpose of this study was to provide sixth-grade students, who are speakers of AAVE, with an eight-week intervention in the principles of phonology, morphology, and orthography that would assist them in improving their spelling performance.

Students had similar scores on all spelling and dialect pretest measures before the intervention began. The research design was a pretest/posttest/posttest design using wait-list-control. This study included 142 students divided into 14 class sections taught by

two teachers. The two teachers provided the intervention to the students. The experimental group consisted of seven classes, and the control group consisted of seven classes. After the first implementation of the intervention, the study was replicated with the control group of students.

MANOVA was utilized to determine the effect of the intervention. The intervention produced large effects for the students who received the spelling instruction. The results from the criterion-referenced spelling assessments and a sentence writing task revealed that students who received explicit instruction from the intervention made gains in their spelling performance from pretest/posttest 1/posttest 2 and maintained these gains after being tested eight weeks later.

Practical and theoretical recommendations are provided for teachers and researchers. Suggested recommendations include: providing teacher training that will enable teachers to be more linguistically aware of AAVE and its features, making students aware of the difference in the AAVE and the AE sound system, and conducting more research-based studies that will assist speakers of AAVE in literacy and spelling.

DEDICATION

To my parents

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CHAPTER I

INTRODUCTION

The aim of this study is to provide sixth-grade students, who speak African American Vernacular English (AAVE), with a phonology, morphology, and orthography intervention that will enable them to increase their spelling performance. The phonology of AAVE is considered a deviation from the standard form of English, and this divergence may hinder some students from spelling conventionally. Little has been written about incorporating a spelling intervention with sixth-grade students. This study provides results that show that a spelling intervention can work with sixth-grade speakers of AAVE. The resulting study builds upon the importance of the role of phonology, morphology, and orthography in spelling and incorporates previous work on the phonology and morphology of African American Vernacular English.

Statement of the Problem

According to Read (1986), everyone in the United States speaks some form of a dialect. African American Vernacular English (AAVE) is one of the most known dialects in the United States (Labov, 1995). AAVE is considered an equivalent system of Academic English (AE) with its own set of rules (Baugh, 1983; Labov, 1972). AE, however, is considered the academic form of speaking and writing in the United States. In order to succeed academically and economically, students must be able to use AE in formal discourse (Delpit, 1998).

This dissertation follows the style of *Reading Research Quarterly*.

One of the problems with AAVE is that when a child's dialect differs from AE, "many more mismatches between oral and written forms may occur" (Charity, Scarborough, & Griffin, 2004, p. 1340). The structural differences between AAVE and AE make it difficult for some students to have success in reading (Labov, 1969, 1972, 1995).

Research has shown that reading and spelling are closely related and poor readers tend to be poor spellers (Ehri, 1997, 2000; Joshi & Aaron, 1991). According to Snow, Burns, and Griffin (1998), "Learning English spelling is challenging enough for speakers of standard mainstream English; these challenges are heightened by a number of phonological and grammatical features of minority dialects that make the relation of sound to spelling even more indirect" (p. 238).

In studies involving the effects of dialect on spelling, one study found that American children from Oklahoma commit spelling errors that reflect the nature of the local dialect. Children from India who learn English as a second language, however, do not commit spelling errors similar to the ones committed by the children from Oklahoma, but commit errors that reflect the articulatory features of their own language (Aaron & Joshi, 2006). In another study, students, who were learning to spell in the Bantu language, Kiswahili, found throughout Eastern, Southern, and Central Africa, dropped the /h/ because this sound is often omitted when they speak in the dialect of Kiswahili (Alcock, 2006). In addition, students who spoke the dialect of Kiswahili often used the phonemes /l/ and /r/ interchangeably in their speaking and in their spelling attempts of the standard Kiswahili. Similarly, in a study involving bilingual children

who attended an English-speaking school, but were from three different language backgrounds -- English-L1, Mandarin-L2; Mandarin-L1, English-L2; and Bahasa Malaysia-L1, English-L2 – results showed that use of metalinguistic knowledge to support spelling is more variable for bilingual children and may be influenced by the language that they speak at home (Rickard Liow, & Lau, 2006). Given the experiences of bilingual students in learning to spell, students who speak the minority dialect of English may experience difficulty in spelling as well.

Since spelling and reading are related, students who speak the minority dialect of English, AAVE, may experience reading problems as well. According to Donahue, Daane, and Jin (2005), the National Assessment of Educational Progress (NAEP), also called the Nation's Report Card, showed that in 2003, African Americans lagged behind their White, Asian/Pacific Islander, Hispanic, and American Indian/Alaska Native peers in reading. Of the fourth-grade students in this report, 2% of African Americans performed at the advanced level, 11% at the proficient level, 27% at the basic level, and 60% below the basic level. On the other hand, 11% of Whites performed at the advanced level, 30% at the proficient level, 34% at the basic level, and 25% at the below basic level. In addition, 12% of Asian/Pacific Islanders performed at the advanced level, 27% at the proficient level, 32% at the basic level, and 30% below the basic level. Moreover, 2% of Hispanic students performed at the advanced level, 13% at the proficient level, 29% at the basic level, and 56% at the below basic level. Additionally, 2% of American Indian/Alaska Native performed at the advanced level, 14% at the proficient level, 31% at the basic level, and 55% at the below basic level.

Similarly, all subgroups outperformed the African American students in eighth-grade as well. One percent of African Americans performed at the advanced level, 12% at the proficient level, 41% at the basic level, and 46% below the basic level. Nevertheless, 4% of Whites performed at the advanced level, 37% at the proficient level, 42% at the basic level, and 17% at the below basic level. Furthermore, 5% of Asian/Pacific Islanders performed at the advanced level, 35% at the proficient level, 39% at the basic level, and 21% below the basic level. Also, 1% of Hispanic students performed at the advanced level, 15% at the proficient level, 41% at the basic level, and 44% at the below basic level. Additionally, 1% of American Indian/Alaska Native performed at the advanced level, 16% at the proficient level, 40% at the basic level, and 43% at the below basic level.

According to Perie, Grigg, and Donahue (2005), the NAEP overall scores for 2005 showed that the national average reading score was two points higher in 2005 than in 1992 but one point lower than in 2003 for all subgroups and both grades. The percentage performing at or above basic was higher in 2005 than in 1992 but one percentage point lower than in 2003. The percentage performing at or above proficient decreased by one point between 2003 and 2005 and was not statistically significant different from the percentage of 1992. The reading skills of the U.S. students show little improvement particularly at the eighth- grade level. According to NAEP, middle schoolers of nearly every group were reading no better in 2005 than did their peers in 1995. Less than one-third of students read at a proficient level. The modest growth made by fourth grade students disappeared by eighth grade.

The National Reading Panel (NRP) listed five essential components of an effective reading program: phonemic awareness, phonics, vocabulary, comprehension, and fluency. The NRP, however, failed to include spelling and writing in its report (Moats, 2005/2006). Moats argued that research shows a strong relationship between spelling and writing. "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" (2005/2006, p. 12). When students suffer from poor spelling, they may limit words that they write to words that they can spell. Moats (2005/2006) noted that research has shown that better spellers tend to be better readers (and vice versa).

As students advance in grade levels, spelling becomes more advanced. Students need to be equipped with the knowledge of phonology, morphology, and orthographic rules to enable them to be successful spellers. This knowledge is essential for students who speak AAVE because instruction needs to focus on the phonological and morphological elements of AAVE and ways to address the difference between AAVE and AE so that students can be aware of the "errors" that they are making. If the phonological and morphological elements of AAVE are not addressed, these elements, along with orthographic knowledge, may deter speakers of AAVE from using conventional spelling.

Background

First, when children spell as they speak, they are spelling phonetically. Although dialect appears to affect some children's spelling, one cannot consider dialectal spelling to be phonetically incorrect. Although the spelling may be incorrect relative to AE, spelling phonetically is an indicator that children spell based upon the sounds that they hear in words. Phonological knowledge is the first and one of the most important aspects of spelling (Moats, 1995; Read, 1975; Treiman, 1993). However, as noted in invented spelling and particularly in the spelling of those whose dialects are different from AE, phonological knowledge is not sufficient for conventional spelling (Treiman, 1993; Moats, 1995).

Moreover, children must learn the influence and rules of morphology and orthography to apply to their phonetic spelling to reach conventional spelling of AE (Ehri & Wilce, 1985; Gentry, 1982; Moats, 1995; Nagy, Berninger, & Abbot, 2006; Nunes, Bryant, & Olsson, 2003). Such training and knowledge would be especially important and critical for those children whose phonological knowledge might differ from AE phonological knowledge in some aspects due to their dialects. Furthermore, training and recognition of how phonological knowledge in their own dialect differs from phonological knowledge in AE might better enable such speakers to spell conventional AE.

In order to understand the phonology of AAVE, AAVE must be defined and the key concepts must be explained. AAVE is a topic of considerable interest when discussing literacy and dialect in the United States. Perhaps, this is due to the fact that

AAVE is an example of one of the most widely used forms of dialect in the United States. What is AAVE? Labov (1972, 1998) considered AAVE to be a separate and equivalent system of English, with its own set of rules. Similarly, Baugh (1983) considered AAVE to be the uniform grammar used by African Americans who have minimal contact with other dialects in contexts where only speakers of that vernacular are present. In addition, Green (2002) defined the dialect of AAVE as a

> variety that is used by African Americans and that has lexical, phonological, and syntactic and semantic patterns that are intertwined with structures in general English. Furthermore, different speakers of AAVE can be at different points on a continuum, so one AAVE speaker may be between points B and C, while another speaker may be at point D on the continuum (p. 676).

Zentella (1997), however, suggested that not all African Americans speak AAVE and that AAVE is not specific to African Americans only. AAVE may be used by different ethnic groups who have maximum contact with speakers or AAVE.

African American Vernacular English has been given many names that have evolved with time, such as Black English (BE), Black English Vernacular (BEV), African American English (AAE), and Ebonics, the latter of which is usually used by people outside of academics. These terms are usually used synonymously with each other. Some common misconceptions about AAVE are that it is: (a) street talk, (b) slang, (c) bad English, and (d) not really a language. These misconceptions may be due to the many features exhibited in the use of AAVE and the misunderstanding of these characteristics.

Many characteristics of AAVE exist. The characteristics of AAVE (Baugh, 1983; Deserg, Elliot, & Marsh, 1980; Labov, 1972; Rickford, 1999; Wolfram, 1969) described

below, however, are examples of the ones commonly found in speakers of AAVE and the ones that are pertinent to this study of spelling:

1. Dropping the final consonant (Example: *row* instead of *road*)
2. Reduction of the final consonant cluster (Example: *des* for *desk*)
3. The use of labiodental fricatives (Example: *dat* instead of *that*)
4. Realization of final *ng* as *n* in gerunds (Example: *walkin* instead of *walking*)
5. Omission of the possessive inflection (Example: *This is John book* instead of *This is John's book*.)
6. Omission of the plural inflection: (Example: *two boy* instead of *two boys*)
7. Absence of past tense marker *ed*: (Example: *Yesterday, the boy jump over the fence* instead of *Yesterday, the boy jumped over the fence.*)
8. Incorrect AE subject-verb agreement (Example: *Joy walk* instead of *Joy walks*)

Previous studies have shown that AAVE students commit these types of "errors" in their oral language and in their spelling. First, Labov (1969) examined the language of African American boys in Harlem. His study revealed that the participants displayed many of the features of AAVE in their oral interviews, perception test, and classroom correction test. Another study compared students who are speakers of AE with students who are speakers of AAVE on use of word-final consonant sounds on a deletion task. The AAVE students showed weakness in analyzing word-final consonant clusters as compared to students who spoke AE (Sligh & Conners, 2003).

Moreover, Treiman (2004) compared the spelling of /d/ and /t/ as the final consonant in speakers of AAVE with Caucasian speakers. As devoicing the final obstruent is a feature of AAVE, the AAVE participants in this study made dialect-related errors in their spelling when trying to spell words such as *rigid* and *ballot*. The adult participants confused the /d/ and /t/ sound at the end of words similar to *rigid* and *ballot*. Similarly, Terry (2006) examined the relationship among AAVE, linguistic knowledge, and spelling skills. Students' dialect was assessed from a story that they told about a time when they were hurt or in trouble. Afterwards, students completed a 25-item sentence dictation task in traditional spelling test format, a productive morphology task, and a nonword multiple-choice task. The results from the study revealed that the ability to spell inflected morphemes correctly is related to students' elicited oral production and understanding of these standard forms, and AE speakers statistically significantly outperformed AAVE speakers in both these skills.

The key features of AAVE can potentially cause problems for some AAVE students. Snow et al. (1998) suggested that AAVE and its phonology create additional challenges for students who are learning to read English. Snow et al. (1998) recommended studies that will assist linguistically informed instructional programs on literacy outcomes for speakers of AAVE. These recommendations include:

- modifications of phonemic awareness and phonics instruction that are sensitive to differences in the phonological characteristics of AAVE and those presumed by English orthography;

- exploration of morphemic and word analysis strategies for reinforcing the structure and significance of English orthography; and
- research on the role of other linguistic factors, such as syntax, in the reading acquisition of AAVE speakers.

(Snow et al., 1998, p. 341)

The characteristics of AAVE can cause some students to be less successful in spelling conventionally. Studies have shown that AAVE can affect students' literacy achievement. It is a structured language, and students have to be aware of the features of AAVE and the features of AE so that they can experience academic success.

Purpose of Study

Little research has been conducted on providing a way to improve the spelling of students who are speakers of AAVE. The purpose, therefore, of this study was to determine whether sixth-grade AAVE students could apply phonological, morphological, and orthographic knowledge to spell conventionally. This study sought to provide students with a scripted intervention, given by the classroom teachers, in spelling instruction that would show students how words and phrases are pronounced in their dialect and how these same words or phrases should be pronounced in an academic setting. The intervention allowed for students to focus on sounds that are often omitted or reduced in AAVE and draw upon those sounds when spelling AE. Dialect is something that may not change for people; therefore, this study was designed to provide students with the linguistic skills that will help them achieve AE success in school and beyond. Therefore, my research question was:

Does a direct instruction intervention involving the principles of phonology, morphology, and orthography improve spelling achievement in speakers of African American Vernacular English at the sixth-grade level?

Research (Terry, 2006; Treiman, 2004) has shown that students often made AAVE errors in their spelling, and this study sought to determine if these "errors" could be "corrected" once students were made aware of their dialect and its key features and how these features should sound formally. It has been established that phonology, morphology, and orthography are contributors to successful spelling. It was expected, therefore, that students' spelling should improve once they were familiar with the AE sound system and became more cognizant of AE phonology, morphology, and orthography to be able to apply these successfully to their spelling.

In order for students to acquire spelling skills, spelling must be formally taught, and phonological awareness along with morphemic and orthographic awareness must be an essential part of spelling instruction (Carreker, 2005a). The lessons in the intervention focused on some phonological awareness activities, such as syllable counting and segmenting, and phoneme counting of the common sounds often omitted or reduced in AE by AAVE students (see above list of key features of AAVE). In addition, the intervention's lessons focused on inflectional endings (morphological), specifically *-ed, -s,* and *'s*; the intervention also featured four derivational morphological lessons that focused on the constancy of spelling despite a change in pronunciation of the vowel from the base word to the derived word (e.g. *type* and *typical*), the root "rupt", the suffix /shun/, and how vowel sounds in words change across related words but the spelling

remains the same (*familiar* and *familiarity*). Last, the orthographic knowledge lessons focused on:

- FLOSS Rule
- Rules for adding a suffix to a word
- Rules for making words plural
- Hard C and Soft C
- Hard G and Soft G
- Diphthong *oi* and *oy*
- Diphthong *ou* and *ow*
- Rule for spelling the /k/ sound in the final position
- Final *v* rule
- Rule for *–tch* for the /ch/ sound
- Words that end in the /g/ sound

All of the lessons were scripted, and students were provided with corrective feedback. The purpose was to improve the spelling performance of AAVE students. This study was designed to address the spelling errors that were hypothesized and provide an answer to help students reach conventional spelling.

Significance of Study

A significant gap exists in the research on speakers of AAVE and spelling. This study will add to the limited, existing research on the ways that various dialects influence spelling. The study addressed ways to incorporate a phonological,

morphological, and orthographic intervention to assist dialect speakers in spelling conventionally. Speakers who spell according to the sounds in their dialect were informed on how to spell conventionally through instructional guidance, practice, and feedback. As different speakers of AAVE incorporate AE into their language at different levels, students were made aware of their dialect and drew upon the understanding of their dialect for assistance in spelling AE.

Definitions

African American Vernacular English– an equivalent system to English that has its own rules to express the same syntactic and semantic content (also called African American English [AAE], Black English Vernacular [BEV], and Black English [BE]) (Labov, 1972)

Morpheme – the smallest meaningful linguistic unit (e.g., *cats* has two meaningful units: (1) *cat*- which means one cat; (2) *s* – is a meaningful linguistic unit that is added to *cat* to make it mean more than one) (Moats, 1995)

Morphology – the study of the smallest meaningful units of language (e.g., prefix, root, and suffix)

> **Derivational morphology –** the process by which new words are created from existing words, chiefly through affixation; the development of a word from its historical origin (e.g., – *production* is formed from the word *produce*) (Moats, 1995)
>
> **Inflectional morphology** – grammatical endings that signify possession, gender, or number if the word is a noun; tense, voice, or mood if the word is a verb; or

comparison, if the root is an adjective (e.g., *s* is added to *boy* to make the noun change to *boys, which changes the meaning; -ed* is added *to bump* to make the verb change meanings; *er* is added to *thin* to make the adjective change meanings) (Moats, 1995)

Orthography - the writing system of a language (Moats, 1995: Joshi & Aaron, 2006)

Phoneme – the smallest unit of speech that makes a difference to meaning (e.g.,- *cat* has three phonemes or speech sounds: /k/ /a/ /t/) (Moats, 1995)

Phonology – the study of the sound system of a language, a system that determines the pronunciation of a language (e.g., the pronunciation of English sounds and words) (Moats, 1995)

Academic English – English that is used in formal discourse or in an academic setting for writing and speaking (also called, General American English [GAE], Mainstream American English [MAE], School English [SE], Standard English [SE], Standard American English [SAE]) (Delpit, 1998; Labov, 1972)

CHAPTER II

REVIEW OF THE LITERATURE

This chapter is organized into three sections. The first section is a review of research in phonology, morphology, orthography and how each relates to spelling. The second section examines literature relating dialect and spelling. The third section focuses specifically on studies related to AAVE and describes some of the key features and characteristics of AAVE.

Spelling

Why study spelling performance? It has been suggested that (1) spelling "provides a valuable indicator of the level of orthographic skill on which all literacy activities ultimately depend. Word recognition and all subsequent higher level processes that take place in reading are constrained by the ability to fluently transcode print into language" (Shankweiler, Lundquist, Dreyer, & Dickinson, 1996, p. 287) and (2) the careful examination of words in formal spelling instruction can greatly affect not only the efficiency and quality of students' writing experiences but of their reading experiences as well (Adams, 1990).

Despite the above-stated importance of spelling, research on spelling has not received as much attention as reading research (Caravolas, Hulme, & Snowling, 2001; Joshi & Aaron, 2005). Given the connection between reading and spelling, successful decoding relies on knowledge of the orthographic patterns of English. In order for students to be successful decoders and spellers, they must have phonological awareness

training, especially in phonemic awareness (Perfetti, Beck, Bell, & Hughes, 1987; Snow et al., 1998; Wagner, Torgesen, & Rashotte, 1994; Wagner, Torgesen, Rashotte, Hecht, Barker, & Burgess et al., 1997). Students must also have knowledge of the alphabetic principle. Once students have mastered the alphabetic principle, they can use their knowledge of the alphabetic principle to spell more accurately by being able to sound out the words (Share, 1995).

Phonological awareness training and knowledge of the alphabetic principle is essential in successful spelling. Once students learn the function of the alphabetic principle, they advance to learn sound-spelling correspondences in detail, from syllables to phonemes. Once students have mastered these sound-spelling correspondences, students need more experiences with print so that they can learn more complex orthographic and morphological conventions of the language. To develop mastery in spelling, research must incorporate phonological, orthographic, and morphological knowledge as these relate to spelling development (Treiman & Bourassa, 2000). The following features will be examined: (1) phonological knowledge; (2) morphological knowledge; and (3) orthographic knowledge, to better understand how students can reach the "conventional stage of spelling" (Gentry, 1982).

Phonology

Children attempt to represent the sounds that they hear in words when spelling (Treiman, 2004), and thus dialect affects spelling performance in some children's spellings (Treiman et al., 1997). If students are attempting to reproduce the sounds heard through written expression, then they are more likely to spell based upon their

phonological system. In order to better understand how students' phonological system affects their spelling, the link between phonology and spelling must be explained.

Read (1971) believed that once a student learned and mastered phonology, morphology, and orthography in the English language, he or she would be able to spell many words that were unfamiliar. Read examined exceptional preschool children's invented spelling. The children were around the age of three years old, none of whom could read. He sought to determine how these children categorized the various sounds of English. The children's phonological knowledge was based on their invented spellings in spontaneous writings. Some of the invented spellings included words such as GOWT (goat), WENDOWS (windows), ANEMEL (animal), and BRITHR (brother). A student who attempts to spell *truck* with a *ch* because *truck* and *chicken* has the same beginning sound is evidence that a student may be spelling phonetically. The preschoolers attempt to spell conventionally demonstrated that children do spell from the sounds that they hear in words.

Beers and Henderson (1977) expanded upon Read's study, in which they collected writing samples from students throughout a school year as well. Beers and Henderson were able to phonetically categorize the words in the writing samples, and their findings supported previous findings that phonology does have an impact on students' spelling attempts.

Similarly, Treiman (1993) examined and categorized spelling samples from children. This study, however, looked at regular education children rather than only exceptional children. The study provided a view of how early spelling is aided by

phonology and other linguistic knowledge. In addition, it showed what kinds of errors occur among early spellers and the types of errors early spellers make when spelling. The results of this study showed that children are more likely to omit the vowels of words such as *girl* and *her* than the vowels of words such as *kept* and *him.* Although words, such as *girl* and *kept* contain four letters, *girl* contains a syllabic *r*. It does not contain a separate vowel phoneme preceding an *r*. It was concluded that "If phonology contributes importantly to spelling, then phonological differences among dialects, may show themselves in spelling" (p. 64).

Moreover, Ball and Blachman (1991) evaluated the effects of training in phonemic segmentation and instruction in letter names and letter sounds on kindergarten children's reading and spelling skills. Three urban public schools were chosen and 90 students were randomly assigned to one of three groups: (a) training in segmenting words into phonemes as well as training in correspondences between letter names and letter sounds (phoneme awareness group); (b) training in letter names and letter sounds (language activities group); and (c) no intervention (control group). The results revealed that students in the phoneme awareness group outperformed the other two groups. The training in phoneme awareness improved the early reading and spelling skills of the students who received this training.

In order to understand spelling, phonology must be understood. Our alphabetic writing system is designed to represent the sounds of language; children's spelling attempts often express what they know about the speech sounds in words (Moats, 1995).

Using the above-mentioned studies, one can see that phonology alone does not guarantee successful spelling. Students must also have knowledge of morphology.

Morphology

Morphology is the study of the smallest meaningful units of language (e.g., prefix, root, and suffix) (Moats, 1995). Inflectional morphemes are those grammatical endings that do not change the root of the word but that signify possession, gender, or number if the word is a noun (John*'s*, traps, bench*es*); tense, voice, or mood if the word is a verb (snapp*ed*, giv*en*, sing*ing*); or comparison, if the root is an adjective (strang*er*, strang*est*). Inflections are usually unaccented or, in the case of the past tense *–ed*, not even pronounced as a syllable for certain words (*burned; pitched*), which adds to their difficulty for spelling (Moats, 1995).

Derivational morphemes, on the other hand, is the process by which new words are created from existing words, chiefly through affixation, and it is the the development of a word from its historical origin (e.g., *suggestible* derived from *suggest*). Many of these are borrowed from Greek and Latin.

Carlisle (1987) examined fourth-, sixth-, and eighth-grade students to explore the relationship between morphological knowledge and spelling ability. Students' results were compared to learning-disabled ninth-graders. Regular readers and learning-disabled readers were compared to determine whether they learned derivational morphology differently and whether they made different spelling errors. Students were administered three tests of morphological awareness. First a Spelling Test, which consisted of two subtests. The first subtest required students to produce the correct base form from a

derivative (e.g., *mysterious* from *mystery*). The second subtest asked students to produce the correct derived form of a given word (e.g., *admit* from *admission*). Next, a Test of Morphological Structure was administered. It consisted of the same elements as the Spelling Test, except that it was oral. Last, a written Test of Suffix Addition was administered, requiring students to add a suffix to a nonsense word in which the nonsense word was constructed from a real word by substituting a consonant or a consonant blend (e.g. *dun* for *run* or *drim* for *swim*). The items on the test consisted of an item such as *dun* + *er* = _____.

The results indicated that the students from both groups knew more about morphological relationships than what they showed in their spelling. Both groups performed better when shifting from the derived word to the base word instead of producing the derived word from a base word.

Carlisle (1995) also investigated whether students' knowledge of morphology could predict reading achievement. Carlisle examined whether morphological awareness changed from kindergarten to first grade. The results showed that kindergarten children's morphological awareness was too low to predict second grade reading ability, and morphological awareness improved from kindergarten to first grade. The first graders scores were almost double those of kindergarten scores for inflected forms and derived forms: 61% to 36.5% and 40.9% to 22.8%, respectively. Although, phonology and morphology were related, Carlisle found that morphological knowledge is a better predictor of reading achievement than phonological knowledge.

In another study, Carlisle (2000) measured students' performance on morphological awareness tasks. Carlisle asked third- and fifth- grade students to produce the correct derived form of a given word in a sentence (e.g., "Produce. The play was a grand _____"). Another task student completed was to give the correct base form, given a derivative in a sentence (e.g., "Runner. How fast can she _____?"). Students, at both grades, were better able to decompose and produce transparent (e.g., *run, runner*) than "shift" words (e.g., *produce, production*).

A study conducted by Nunes et al. (2003) examined morphological and phonological spelling rules. The researchers pointed out that despite all the studies reporting the importance of morphology in learning to read, little research has been conducted on how to help children learn morphological spelling rules.

The participants in this study were from eight London schools; four schools were experimental and the other four served as the control group. There were 222 seven- and eight-year-old students in each group. Groups were randomized into the following:

1. Morphological training alone
2. Morphological training with writing
3. Phonological training alone
4. Phonological training with writing
5. Control group

Nunes et al. administered the *Weschler Intelligence Scale for Children-3rd Edition* (Weschler, 1991) and *Schonell Reading and Spelling Test* (Schonell & Goodacre, 1971) as pretest/posttest. The spelling assessment in the pretest/posttest

included words and pseudowords with conditional phonological and morphological rules. There were a total of 31 words and 10 pseudowords used, and a point was given for each word spelled correctly.

The intervention consisted of small groups of four to eight children in 12 weekly intervention sessions, which consisted of games. The games the students played were administered orally and required oral responses from the students for the morphological and phonological training alone groups. The children in the "with writing" groups were taught the rules in writing. The main activities included segmenting, blending, classifying, and analogy. The 31 words and 10 pseudowords on the spelling assessment were scored in two ways. First, a point for each correct word was given and then a point for getting a phonological rule correct was given. The morphological spelling was scored in two ways: (a) success in spelling derivational affixes and (b) success in preserving the stemmed morpheme in spelling pseudowords. Students receive a point if they successfully spelled the derivational affix and a point if they preserved the stemmed morpheme in spelling.

Children made gains in their morphological spelling rules but not in their use of conditional phonologically based spelling rules. The improvement in spelling rules was confined to groups trained in morphology. In addition, training in phonology benefited the students' use of morphology in reading. The intervention, however, had little effect on the use of phonologically-based conditional spelling rules.

Green, McCutchen, Schwiebert, Quinlan, Eva-Wood, and Juelis (2003) focused on the development of children's control of morphological markers in their writing.

Inflectional and derivational forms were examined in 247 third- and fourth- grade students written essays. The majority of these students used inflected forms consistently. Fewer students, on the other hand, used derived forms. The results also showed that more fourth graders used derived forms than third graders. The results indicated that inflectional morphemes are generally mastered by third and fourth grade, while derivational morphology is usually mastered beyond fourth grade.

Nunes, Bryant, and Bindman (2006) stated that there are four reasons why children need to understand morphology in order to become good spellers:

1. Representing morphological units sometimes requires the flouting of letter-sound rules. The inflectional morpheme for regular past verbs in English, *-ed*, is an example. All regular past verbs in English are spelled with the *-ed* ending even when the ending is not pronounced that way; *kissed*, for example, is pronounced as /kist/ and '*killed*' as /kild/. Thus children have to learn when the final /t/ and /d/ sounds are spelled with *-ed*.
2. In many scripts there is more than one way to represent a sequence of sounds adequately: morphological analysis indicates what the correct spelling is.
3. The conservation in the spelling of stems across words in spite of a change in phonological principles (e.g., the long /i/ in *type* becomes a short /i/ in *typical*)

4. Silent morphemes provide another reason for a connection to exist between morphological awareness and spelling. Examples of silent morphology are the apostrophe to indicate possession in English and the plural of nouns and the third person of verbs in French. For example, in oral English, there is no difference between *boys* and *boys'*. In oral French, there is no difference in *chante* and *chantent*, but in written French, the plural is marked by *–nt*.

Through two studies, Nunes et al. indicated that children's success in spelling the inflection at the end of regular past verbs predicted their performance in two morphological awareness tasks a year later, and children's consistency in spelling morphemes predicted their ability to define new words on the basis of their morphemic structure. As Kemp (2006) stated, "Other authors focus on the role of phonology and word-specific learning in the development of literacy, but minimise the importance of knowledge of any further spelling patterns, including those of morphology" (p. 738).

Similarly, Deacon and Bryant (2006) state that English orthography is morphophonemic, which means that spellings encode both morphemes and phonemes. Deacon and Bryant (2006) conducted two experiments to determine the starting point and extent of young children's understanding of the link between morphemes and spelling. In Experiment I, 65 six- to eight-year-old English-speaking children spelled just the first sections of inflected, derived (e.g., *rocked*) and controlled words (e.g., *rocket*). Their spelling of the first segments was better in inflected and derived words than in control words. The control items consisted of one-morpheme words, each of which

started with the same letter-sound sequence as one of the inflected or derived words. The children who were aware of the morphophonemic basis of the spelling of roots were able to spell the first letters of the experimental words than of the control words. Deacon and Bryant replicated the findings with 78 six-to- eight-year-old children spelling more words. The results showed that these students appreciate the role of root morphemes in the spelling of both inflected and derived words.

Tsesmeli and Seymour (2006) evaluated the spelling of derived words by dyslexic adolescents to verify whether the spellings are associated with lack of vocabulary and/or morphological knowledge. Performance was compared with age matched and reading level matched groups. The first aim of the study was to determine if dyslexia was associated with special difficulty in spelling morphologically complex words. Tsesmeli and Seymour explored whether spelling of morphologically simple forms (base words) was in line with reading age but spelling of complex forms (derivations) was below reading level expectation. The second aim of the study was to determine how far any special difficulties with morphological spelling could be explained in terms of underlying linguistic difficulties. Possible problems identified were (a) restriction on breadth of vocabulary and (b) lack of morphological awareness.

The ten participants comprised of a dyslexic group from ages 13-15 years old. The control group consisted of 20 non-dyslexic participants who were age matched with the experimental group. The experimental group received Spelling Task I, which included 48 morphologically related word pairs (FINAL—FINALLY). On Spelling Task II, students were administered pairs of Greek origin (ACADEMY—ACADEMIC). The

results verified the complications the dyslexic group encountered. These students spelled conventionally for only 23% of items from Task I and only 16% of items for Task II. The non-dyslexic control group correctly spelled 90% of items on Task I and 72% on Task II.

Morphological knowledge is a predictor of spelling accuracy, even in adults. Burt (2006) investigated whether 112 university students' completion of seven tests assessing word accuracy, print exposure, phonological sensitivity, phonological coding, and knowledge of English morphology were predictors of spelling accuracy. The tests explained 71% of the variance in spelling. Phonological skills and morphological knowledge surfaced as strong predictors of spelling accuracy for words with both regular and irregular sound-spelling correspondences. Burt (2006) suggested that the pattern of relationships was consistent with a model in which phonological skills encourage the learning of individual word orthographies and structural relationships among words.

All of the above studies highlight the strong relationship between morphological awareness and word reading achievement (Carlisle, 2003) as well as spelling achievement (Nunes et al., 2003, 2006). Research suggests that educators and educational researchers need to incorporate more word study into reading and spelling programs, focusing attention to both form and meaning. The value of instructional goals and programs in morphological awareness for students needs to be explored (Carlisle, 2003).

Orthography

Orthography is the visual representation of language that is explained by phonological, syntactic, morphological, and semantic features of the language (e.g., Chinese orthography and English orthography) (Joshi & Aaron, 2006). The English writing system is alphabetic (Nagy et al., 2006; Kemp, 2006).Within the English language, the orthographic rules of spelling words seem difficult for some people. Venezky (1970) analyzed 20,000 words and proved that there is a method to all of the chaos about the unpredictability of spelling. Some theorists such as Radaker (1963) and Sears and Johnson (1986) believed in visualization of spelling words, while Henderson and Beers (1980) and Henderson and Chard (1980) argued that there is no method to imagery. With 650,000-800,000 (Moats, 1995) words in the English language, how could one memorize all of them? Hanna, Hodges, and Hanna (1971) analyzed 17,000 words on a computer to categorize them orthographically. This study, along with Venezky's study, confirmed that English spelling is *not* as unpredictable as once believed.

Orthographic rules in English help writers to spell conventionally. For example, some letters in English can never be doubled within a syllable or between syllables, such as *j, y, i* (exception, *skiing*), *k* (exception, *bookkeeper*). The letter *e* indicates when a vowel is long, as in *make* and *ride*. It also indicates when a *c* or a *g* should have its "soft" sound, as in *page, piece,* and *price*. In addition, it keeps some words from looking like plurals (*please*, not *pleas*; *horse*, not *hors*; *mouse*, not *mous*) (Moats, 1995). English words are not just random strings of letters (Treiman & Bourassa, 2000).

Orthographic knowledge can be difficult to attain. Frith (1980) questioned why some good readers tended to be poor spellers. Frith questions were: Do poor spellers who are good readers make different kinds of errors from those poor spellers who are poor readers? Do poor spellers who are good readers recognize words differently from other good readers?

Frith chose secondary school students from three schools in London. The students were divided into three groups: A, B, and C. The A group were the good readers and good spellers, the B group were the good readers and poor spellers, and the C group were the poor readers and poor spellers. The *Schonell Graded Word List* (Schonell & Goodacre, 1971) was administered to test the students' reading and spelling skills. For reading, the students had to recognize single words and pronounce them correctly. For spelling, students had to be able to write down the correct letter sequence of single words.

The results showed that the good readers who were poor spellers outperformed the poor readers who were poor spellers. The poor readers tried to write the correct sound of the words even though they did not know the correct spelling. According to Frith, they could use grapheme to phoneme correspondence (GPC) rules but they do not seem to know the correct letter-by-letter spelling of a word. However, she stated that totally relying on GPC rules has been proven in other studies to not be enough for conventional spelling.

Next, Treiman (1993) examined students' ability to pick an orthographic correct pseudoword versus a non-orthographic pseudoword. Students were given 16 pairs of

pseudowords, in which they had to pick the word that conformed to the regular orthographic pattern of English. Students were given a pair such as: (1) *ckun* and *nuck* and (2) *beff* and *ffeb*. The average percentage of correct responses on the test was 56.4% for kindergarteners, 62.3% for first graders, 83.2% for second graders, and 94.5% for adults. This suggests that orthographic knowledge of spelling begins at an early age and continues to develop as students become older.

An awareness of phonological, morphological, and orthographic knowledge are factors that contribute to students reaching conventional spelling (Silliman, Bahr, & Peters, 2006). It is important to be knowledgeable of these three linguistic features in order to experience success in spelling.

Dialect's Influence on Spelling

Phonology plays a major role in spelling development. Treiman, Goswami, Tincoff, and Leevers (1997) performed two experiments in which they compared the spelling of children who spoke AE and children who spoke Southern British English. Linguistic knowledge plays an important role in spelling, especially for phonological knowledge for young children. Read (1971; 1975) was one of the first to acknowledge the role phonology plays in young children's spelling. Beginning spellers use various strategies based on their phonological knowledge to divide words into segments and to represent these segments in written form (Read, 1971).

American English versus British English

Given the fact that phonological knowledge, derived from the pronunciations of words, plays an important role in early spelling, children who speak different dialects of

the same language would supposedly make different kinds of spelling errors (Treiman et al., 1997). Young children with low levels of spelling skill (about 6-7 ½ years) as well as children with somewhat higher levels (about 7 ½ -10 years) were participants in the study. The phonological feature that was examined was the occurrence of /r/ in syllable rimes. Dialects in English allow /r/ before a vowel; not all vowels, however, allow /r/ after a vowel within a syllable. English dialects that allow /r/ in rimes are called rhotic. Therefore, SE is a rhotic dialect. Dialects that do not allow /r/ in syllable rimes are called nonrhotic, and Southern British is a nonrhotic dialect.

The study showed that dialect affected the children's spellings. When asked to spell such words as *doctor, hurt, card*, and *girl*, the British children failed to include the /r/ because the Southern British dialect does not allow /r/ in syllable rimes. Southern British English speakers do not include /r/ when pronouncing words such as *blur* and *doctor* in isolation. American children, however, did not omit /r/ when attempting to spell words with the syllabic /r/.

Furthermore, the most interesting difference between the British and American children's spellings was the British children's many *r* intrusions on words such as *china*, making the word "chiner". The British children made *r* intrusions on words such as *bath* ("barth" and "brta") and *dawn* ("dorn" and "dorah"). American children did not make these types of errors in their spellings. Results from this study offer evidence that children's dialect affects their spelling.

More surprisingly, dialect influences spelling even in adults (Treiman & Barry, 2000). Researchers have shown that children's spelling become less influenced by

phonology and more influenced by other higher levels of spelling skills such as orthography and morphology. Other researchers, however, believe phonology continues to be a dominant force in adults' spelling.

Treiman and Barry (2000) investigated spelling and dialect by comparing American and British adult spellers. Treiman and Barry examined whether American and British students made different kinds of spelling errors as a function of the differences between their dialects. They compared spellings that were produced by college students in the United States and Great Britain. The phonological feature of interest was the occurrence of /r/ after a vowel. The American participants were students from a Midwest university in the United States, and they spoke a rhotic dialect. The British students attended a university in Great Britain and spoke a nonrhotic dialect.

Students were given words which they had to rate from one to seven, with seven being a word that was most familiar to them. In Type I words, the results revealed that speakers from Britain omitted the final *r* on words such as *leper* and spelled it as *lepa*. Other words included *ether* as *etha* and *panther* as *pantha*. Only 1% of the U.S. students made this type of error (2 of 179). In Type 2 words, words such as *polka* were spelled *polker*. The speakers of nonrhotic dialect added an *r* at the end of the word. The U.S. students used an *r* only 4 out of 257 times. In Type 3 words, such as *hermit*, the British students were expected to make errors on these types of words as speakers of a nonrhotic dialect might be expected to produce errors because they do not pronounce the /r/ in *hermit*. Few errors, however, of this kind were made by both groups of students. On Type 4 words, such as *canoe,* British students were expected to spell this word as they

pronounce it as carnoe. Only 1% percent of British and 0% of the U.S. students, however, made this type of error. The findings suggest that phonology plays a role in the spelling of moderately or highly familiar words, at least if these words are relatively low in printed frequency (Treiman & Barry, 2000).

AAVE versus AE

In a separate study, Treiman (2004) compared speakers of AAVE with Caucasian speakers. She investigated the spelling of /t/ and /d/ as the final consonant. Since a characteristic of AAVE is to devoice the final obstruent, Treiman examined whether this dialect characteristic influence adults' spelling. The last sound in the word *rigid*, for example, is pronounced more like /t/ than /d/ and that in *ballot* is pronounced more like /d/ than /t/ by AAVE speakers.

The study addressed three issues: 1) Are dialect-related spelling effects found for other pairs of dialects and for phonemes other than /r/? 2) The second issue concerned the nature of dialect-related spelling effects. For example, elementary students often misspell words with intervocalic flaps, so that *city* is spelled *sidy*. 3) The third issue was whether dialect-related spelling effects reflect the pronunciations that spellers hear, their own pronunciations, or both. The participants were students from a Midwest university. Students were given 40 words to rate on a 7-point scale to determine their level of familiarity, with seven meaning that the word was familiar to them and they knew its meaning well. In the study, some African Americans heard the words from a White speaker and others heard them from a speaker of AAVE. In addition, the White students heard the words from either a White speaker or a speaker of AAVE. Twenty-two of the

African American participants were tested by an African American experimenter and 24 were tested by a White experimenter. The other group of students identified themselves as White or Caucasian. Twenty-two of them were tested by an African American experimenter and 25 of them were tested by a White experimenter.

The results showed that dialect-related effects on adults' spelling occur for pairs of dialects other than those investigated by Treiman and Barry (2000): British students' dialect versus American students' dialect. Treiman's study demonstrated that misspellings that were related to the phonology of AAVE occur not only in young children but also in adults. Another conclusion was the fact that White students who heard words pronounced by a speaker of AAVE were less likely to confuse *d* and *t* than were African Americans who heard the words pronounced by a White speaker. The misspellings are least common when the participant distinguishes between final /d/ and /t/ in his or her own speech and the tester does too.

Similarly, Terry (2006) examined the relationship among the linguistic knowledge of AAVE and spelling skills. Terry's sample included 92 students from various ethnic backgrounds. Students were asked to tell a narrative about a time when they were either hurt or in trouble. The student's dialect was assessed from the story that they told. Forty-five participants produced AAVE features in spontaneous discourse and narratives, according to a *Dialect Sensitive Measure* (Washington & Craig, 2002) and were classified as AAVE speakers. All 45 participants were African American students. Students who did not produce a high number of AAVE features were in the remaining

group, and this group consisted of children from various ethnic backgrounds, including 11 African American children.

Students were given several tasks to complete, such as a 25 –item sentence dictation task in traditional spelling test format, a productive morphology task, and a nonword multiple-choice task. After accounting for variance in overall literacy levels, the results revealed that (a) the ability to spell inflected morphemes correctly is related to students' elicited oral production and understanding of these standard forms, and (b) AE speakers significantly outperformed AAVE speakers in both these skills.

Results from the previous studies give an indication that dialect affects spelling performance in children and adults. Children and adults write the sounds that they hear when spelling words. In these studies, phonology was a contributor to the success in some of the spellers. It is essential, however, for students to move beyond phonetic spelling to a more sophisticated spelling, which includes spelling using morphological and orthographic knowledge to supplement phonological knowledge.

Summary of AAVE Research

AAVE and Its Features

What is African American Vernacular English? Labov (1972) considered African American Vernacular English (AAVE) to be a separate but equivalent system of English. AAVE is a linguistic system with its own integrity and structure (Baugh, 2005). Similarly, Baugh (1983) called Black English Vernacular the dialect of African Americans who have been isolated from the social environments where the "majority" dialect thrives. Green (2002) defined AAVE as a variety of English that has lexical,

phonological, and syntactic, and semantic patterns that are intertwined with structures in general English.

Labov (1969, 1972) believed that certain phonological variables and their grammatical consequences might be responsible for some of the reading problems of students who are speakers of AAVE. He called the first of these features *r-lessness*. Although *r* is not pronounced in three major dialect areas in the eastern United States -- eastern New England, New York City, and the South -- African American speakers show an even higher degree of *r-lessness* than New Yorkers or Bostonians. With the absence of *r*, non-homophone words would appear to be homophones: guard = god, court = caught, Carol = Cal, and trial = child.

Next, Labov (1972) described the second feature as *l-lessness*. *L*-dropping is akin to that of *r*, except that it has never affected an entire dialect. *L*-dropping is much more common in AAVE than in any other dialect. With the *l*-dropped, non-homophone words appear to be homophones, such as, *toll = toe*, *tool = too*, and *fault = fought*.

Third, simplification of consonant clusters is "one of the most complex variables appearing in black speech" (Labov, 1972, p. 15). The consonants that are primarily involved in the simplification of consonant clusters are: /t/ or /d/, /s/ or /z/. The main /t, d/ clusters that are involved include /*-st, -ft, -nt, -ld, -zd, -md*/. With the consonant clusters simplified, homophones such as, *past = pass*, *rift = riff*, *meant = men*, *mend = men*, *wind = wine*, and *hold = hole*, appear.

In addition, two clusters ending in other consonants that are frequently reduced are: *-sp* and *–sk*. Together with *–st*, these clusters lose the final stop more often than do

any of the others. These are much more frequent so they can be dealt with as a separate rule. Simplification is frequent for African American speakers when a final –*s* is added so that the plurals of *wasp, test, desk* never show the clusters –*sps, -sts, -sk*s. It appears, therefore, that *wasses, tesses, desses,* or *was', tes',* and *des'* are heard.

Weakening of the final consonant is not as regular as the previously mentioned phonological variables. However, "some individuals appear to have generalized the process to the point where most of their syllables are of the CV type" (Labov, 1972, p. 18). With the simplification of final consonants, words such as *boot = boo*, *road = row*, *seat = see* and *seed = see*, appear to be homophones.

In addition, other phonological variables play an important role in the speech patterns of AAVE speakers. For instance, the final fricative /θ/ is frequently fused with /f/ and become /f/ and /v/ in intervocalic position. In addition, the initial consonant clusters which involve /r/ often show signs of variation, in which /str/ is often heard as /skr/. Words such as *Ruth = roof*, *death = deaf*, *stream = scream*, when the final fricative is merged with /f/ or when the initial consonant cluster which involves /r/ shows variation.

Also, inflectional endings are often reduced from words for AAVE-speakers. The absence of the possessive /-s/, the loss of final /l/ on the future tense, and the reduction of /t, d/ inflection on past tense forms are all features that are present in someone speaking AAVE.

Similarly, Charity et al. (2004) provide examples of AAVE features, which include:

- Omission of final consonants - /bae/ instead of *bad*
- Reduction of final consonant clusters - /mos/ instead of *most*; /hep/ instead of *help*
- The use of stops or labiodental fricatives where AE has interdental fricatives - /dis/ for *this*; /bof/ for *both*
- Morphological variation (*He kicked the ball* becomes *Him kicked the ball*.
- Omitting suffixes *Three girls went to the store* becomes *Three girl went to the store.*
- Omission of the verb *be* (*They are running* becomes *Dey runnin'*.)

Considering these various AAVE features and the difference between AE, for about 20 years not much research was conducted on AAVE. Now, AAVE is of interest again because of "No Child Left Behind" and concerns over the academic performance of African American children. Over 50 % of minority children are not performing at the expected level (NAEP, 2005).

Previous studies have determined that AAVE can hinder a students' ability to read successfully (Charity et al., 2004; Craig, Connor, & Washington, 2003; Goodman & Buck, 1973; Labov, 1972, 1995; Piestrup, 1973). Although, AAVE is considered a separate, but equivalent language, students are taught in schools to engage in formal discourse through speaking and writing in AE. Therefore, it is pertinent to detect speakers of AAVE and to teach them how to spell conventionally.

Detecting AAVE

In a study to detect the AAVE features of students, Labov (1969) examined the language of two groups of African American boys in Harlem, named the Thunderbirds (10-12 year olds) and the Cobras (14-16 year olds). Most of the boys were poor readers. Three approaches were used with the two groups: (a) spontaneous interviews, (b) perception testing, and (c) classroom correction test. The results revealed that the African American boys had many nonstandard forms of English (e.g. *He pick me. I've pass my test*.)

Similarly, Baratz (1969) studied third and fifth grade students in the Washington, D.C. area. Baratz examined two separate schools: one African American and one Caucasian. Baratz questioned whether the African American non-standard speaker has to contend with interference from his own dialect on his performance in AE. A sentence repetition task was administered to the students on tape. The task included 30 sentences: 15 in AE and 15 in AAVE. Students were asked to repeat the sentences as best as they could. In addition, students were shown pictures of African American and Caucasian men, women, boys, and girls. Caucasian students performed significantly better than African American students in repeating AE sentences. African American students performed significantly better than Caucasian students on repeating AAVE sentences. In identifying the race of the speaker, 80% of the Caucasian and 76.6% of the African American children identified standard sentences as being spoken by a Caucasian man. AAVE sentences were identified as being by an African American 83.3% of the time by both the African American and the Caucasian.

AAVE and Reading

Goodman (1969) suggested that the more deviation there is between the dialect of the learner and the dialect of learning, the more difficult will be the task of learning to read. Every child beginning at age five or six brings to school the language that is intertwined with the culture of his or her community (Goodman, 1969). Labov (1972) stated that structural conflicts of standard and nonstandard English interfere with learning ability stemming from a mismatch of linguistic features. Piestrup (1973) argued that AAVE speakers are faced with structural interference, a type of conflict that occurs when speakers have difficulty decoding mainstream English words and sounds because they may not be available in their native variety. Structural interference may hinder AAVE students' ability to read.

Goodman and Buck (1973), in a study on the variance between dialect and written material and the difficulties AAVE speakers encounter in reading AE, found that the major difficulty dialect speakers face is linguistic discrimination on the part of teachers who confuse linguistic rejection or linguistic difference with linguistic deficiency. The study, however, did show that African American dialect-speakers can be proficient in reading.

Moreover, Craig et al. (2003) explored early positive predictors for later reading achievement for African American students. The participants were 50 typically developing, based upon their age and grade level, African American students living in Detroit, Michigan. The participants ranged in age from age 4:2 to 6:3. All of the children spoke AAVE but varied in the degree to which they spoke AAVE. Students were given

a variety of assessments to test the hypothesis: Are there significant relationships between early oral language scores and later reading comprehension achievement levels? The results indicated the type of knowledge and skills that African American students bring to schooling and the potential relationships of these skills to later achievement. Oral language samples were collected an analyzed using Bracken Concept Development Program (Bracken, 1986). Students had to look at pictures, such as a picture of an accident, a winter scene, and a school crossing guard. The students had to tell what happened in the pictures. The language samples were transcribed and analyzed. Additionally, students completed a matching task for nonverbal cognition using the *Triangles* subtest of the *K-ABC* (Kaufman & Kaufman, 1983). The *Metropolitan Achievement Tests* (1993) was used to obtain a reading score for the students. The results of the assessments indicated the type of knowledge and skills that African American students bring to school and the potential relationships of these skills to later reading achievement. These assessments provided positive predictors for later reading achievement for students. According to Craig et al. (2003), "When a fuller complement of specific early linguistic skills that are positive predictors have been identified, it should be possible to use this information to develop culturally appropriate and pertinent programs of prevention for African American children" (p. 41).

Finally, Charity et al. (2004) examined AAVE and its relation to early reading achievement. Charity et al. (2004) hypothesized that greater familiarity with AE would be associated with more successful reading acquisition by young African American students from homes and communities in which AAVE is often spoken. The main goals

of this study were: (a) to assess familiarity with AE among young African American students from low-SES backgrounds by measuring the degree to which they could reproduce phonological and grammatical features of AE in a sentence imitation task, and (b) to examine whether familiarity with AE when measured is related to reading achievement differences in the early school grades.

The participants in the study were all African American children in kindergarten through second grade who were attending low-performing schools in Cleveland, Ohio, New Orleans, Louisiana, and Washington, D. C. A random sample of 217 from each kindergarten, Grade 1, and Grade 2 class at two schools in each city participated in the study. Students were measured using the Woodcock Reading Mastery Tests-Revised (Woodcock, 1987). On this test, the Passage Comprehension subtest was scored using dialect-sensitive scoring, as recommended by the test manual. In addition, a sentence imitation task was presented to students. The task consisted of 15 sentences to be imitated that were presented in a picture book. The sentences contained many phonological and morphosyntactic elements that are often produced differently in AAVE and AE. The children were asked to repeat each sentence immediately after the examiner presented it.

The findings suggest that some children in each grade were able to imitate AE forms a high portion of the time. Others, however, frequently produced an AAVE form instead of the AE form, and a majority produced dialect differences and verbatim responses in roughly equal proportions.

AAVE and Writing

For students to read and spell according to the dialect that they speak, it seems natural that they would write with AAVE-related features as well. Fogel and Ehri (2000) found that elementary students who speak AAVE can be taught how to write in AE if they are taught through exposure to text and explicit instruction in strategies depicting the rules of AE plus guided practice and feedback. The study consisted of 89 third and fourth grade students who exhibited AAVE features in their written work. Six syntactic features were examined:

1. Possessive “s”
2. Past tense “ed”
3. Third-person present-tense singular “s”
4. Plural “s”
5. Indefinite article
6. Subject-verb agreement

Students received one of three treatments to increase their use of AE features in their writing: (1) exposure to AE features in stories; (2) story exposure plus explanation of AE rules; and (3) story exposure, AE rule instruction, and guided practice transforming sentences from AAVE to AE features. The most effective approach was story exposure, AE strategy instruction, and guided practice and feedback in the use of such strategies to transform AAVE into AE. The students receiving this treatment outperformed students receiving only partial treatments in their knowledge and use of AE in their writing.

Conclusion

Many studies have been conducted on AAVE to determine if AAVE is correlated with the low literacy performance of some African American children who do not have the ability to use AE. Students have been assessed at various levels to determine the role that dialect plays in the educational setting. Research has shown that students who do not know AE may be at a greater disadvantage of being successful readers and spellers because of their linguistic differences.

CHAPTER III

METHOD

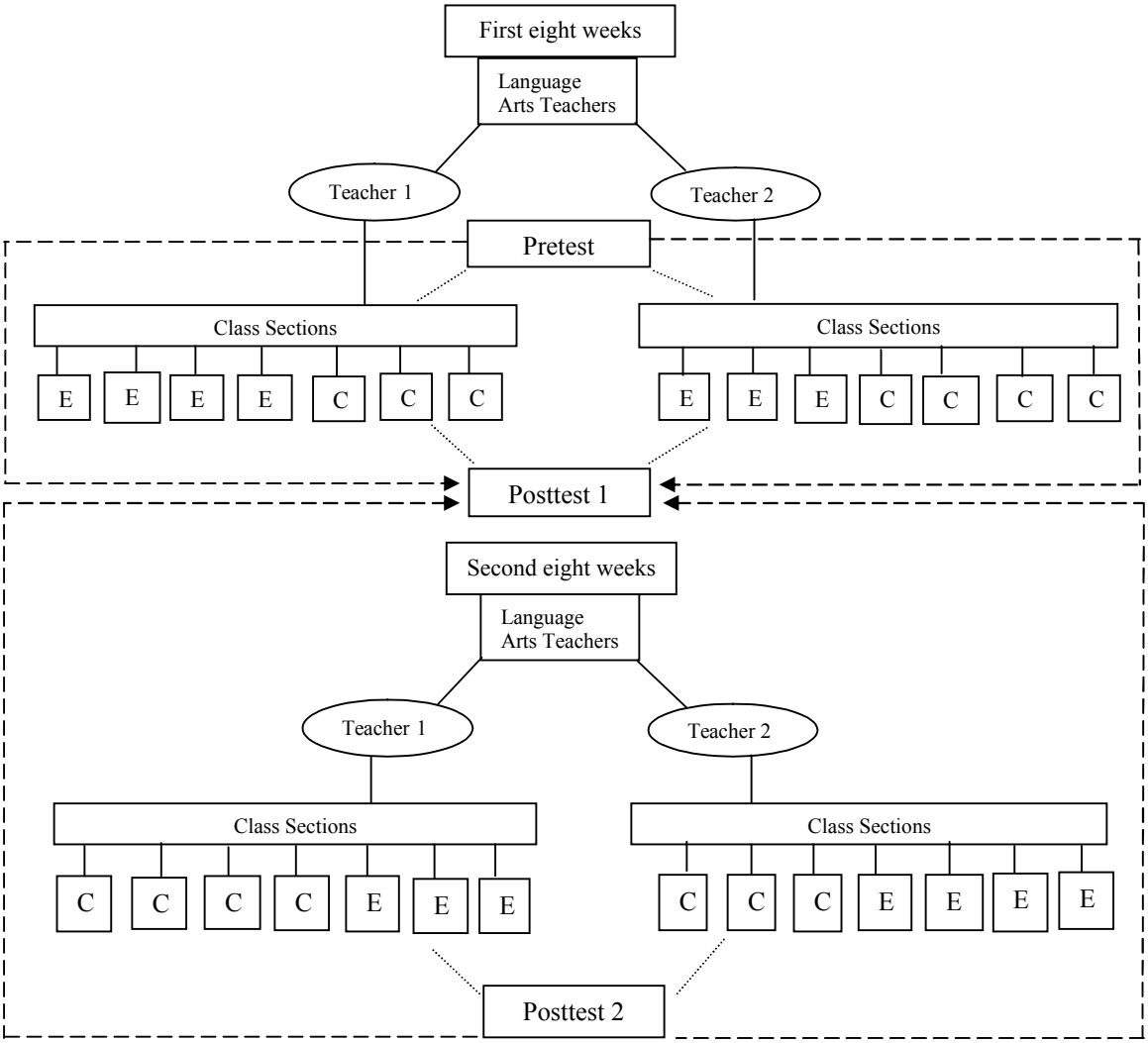
The intent of this study was to incorporate a spelling intervention for students who are speakers of AAVE. The focus was on direct instruction in phonology, morphology, and orthography to increase spelling performance of sixth-grade speakers of AAVE. The intervention included phonological characteristics of AAVE and the morphological characteristics of AAVE along with derivational morphology and orthographic knowledge. This wait-list-control study consisted of an experimental group and a control group of students.

Research Design

The design for this study was a pretest/posttest/posttest design (see Figure 1). Using wait-list-control, during the first eight weeks, seven classes received the intervention (experimental) and the other seven classes did not (control). During the second eight weeks, the study was replicated. The experimental and control groups were reversed and the previously controlled group received the intervention (control/delayed experimental group). Everyone, therefore, received the treatment. This allowed the researcher to compare gain scores of both groups of students. The first experimental group (experimental/phase I group) was tested eight weeks later to determine if there was a lag effect. The researcher was able to determine if the students retained the information from the intervention eight weeks later. In addition, the wait-list-control confirmed the effectiveness of the intervention with the second group of students

receiving the treatment. The researcher was able to determine if the control/delayed experimental groups' gains were comparable to the gains of the experimental group that received the intervention.

Figure 1 Research Design for Wait-List Control



Note. The "E" for the first eight weeks stands for the experimental classrooms. The "C" for the first eight weeks stands for the control classrooms. The "E" classrooms received the treatment, and the "C" classrooms did not. The "E" for the second eight weeks stands for the control/delayed experimental classrooms. The "C" for the second eight weeks stands for the experimental/phase I classrooms. The "E" classrooms received the intervention, while the "C" classrooms did not continue the intervention the second eight weeks.

Instrumentation

Before the study began, students were instructed to write about a time when they felt sad. The participants were required to write at least ten sentences in their essay. Students were administered a norm-referenced spelling test, the *Wide Range Achievement Test 3* (WRAT-3) – Spelling subtest (Wilkinson, 1993). The WRAT-3-Spelling Subtest was used to assess the spelling abilities or disabilities of students (Wilkinson, 1993). In the spelling subtest, the participants were asked to write words as they were dictated by their teacher. The WRAT-3 was normed using a stratified national sampling included nearly 5,000 individuals that provided data for standardization of the WRAT-3. The test consisted of 40 words that were administered to the participants. The total test has 55 items. Fifteen items were not administered due to the age level of the students, as suggested by the testing manual. These items included: receiving points for the correct spelling of the participants' name and writing correct letters that were dictated by the teacher.

Students were administered the *Diagnostic Evaluation of Language Variation (DELV)* (Seymour, Roeper, & de Villiers, 2003) as an oral dialect sensitive assessment to determine if they spoke AAVE. The test was administered individually to students by the researcher and the school's test coordinator. There were 15 items on the test. On five of the items, students had to repeat a phrase dictated by the examiner. For example, the examiner said: **I see a gift near the baby** and the student had to look at the picture and repeat the phrase. The participant received credit, one point, if he or she pronounced *gift* correctly in the repeating of the sentence. The other ten items consisted of providing the

correct subject-verb agreement for the pictures that were presented. For example, an item consisted of a statement such as this: (Point to the plates). **I see plates.** (Point to the glasses.) **I see glasses**. (Point to the boys.) **The *boys* always wash the plates,** (Point to the girl.) **but the girl always . . .** Students received credit if they chose the correct response *washes*. Students had to complete sentences on the rest of the items to make the subject-verb agree. Items included: 3rd person singular *have/has*, 3rd person singular –*s/-es*, 3rd person *do/does*, and copula (or auxiliary) *was*.

In addition, students were given two pretest tasks: (a) a traditional spelling test, which was criterion-referenced and (b) a sentence dictation task. Both tasks included words that have sounds that are often omitted in the spellings of AAVE students. The pretest, posttest 1, and posttest 2 spelling tests were created by the researcher using the students' observed writings, graded word lists from various sixth-grade spelling textbooks, and words found in the literature about AAVE. Each test included 81 words (see Appendix A), and words for each spelling criteria were randomly assigned either to the pretest, posttest 1, or posttest 2. The spelling words were: (a) equally matched for syllables, (b) closely matched for letters, and (c) closely matched for frequency using Zeno, Ivens, Millard, and Duvvuri (1995). The spelling assessments were given in traditional spelling test format (see Appendices B, C, and D). The teacher recited the word, read a sentence with the word, and read the word again. The sentence writing task was a modified version of the Charity et al. (2004) sentence repetition task (See Appendix E). The modified version included five extra sentences than the original sentence writing task so that more words could be analyzed for spelling. The sentences

were constructed based upon words that are often misspelled by students who are speakers of AAVE.

In this study, the classroom language arts teachers provided the intervention for students. The teachers explained the overall purpose of the intervention to the students based upon the scripted instructions in the teacher's manual. The students were told that the way that they speak is unique to them and their culture, and the lessons in the intervention are not designed to make them give up the speech or their culture but designed to help them spell better in school and beyond. The intervention consisted of spelling lessons based on phonological, morphological, and orthographic knowledge (see Appendix G for two examples). The lessons focused on features that are often omitted and/or reduced in AAVE. In addition, the lessons drew upon strengthening spelling in AE. The AAVE features included in the lessons were:

- Reduction of final consonant clusters (*pass* instead of *past*)
- Use of stops or labiodental fricatives (*bof* instead of *both*)
- Dropping or omitting the final consonant (*toll* instead of *told*)
- Realization of final *ng* as *n* in gerunds (Example: *ridin* instead of *riding*)
- Omission of the possessive inflection (Example: *We went to Tom house.* instead of *We went to Tom's house*.)
- Omission of the plural inflection: (Example: *two dog* instead of *two dogs*)
- Absence of past tense marker *ed*: (Example: *He yell at the dog.* instead of *He yelled at the dog.*)

- Incorrect AE subject-verb agreement (Example: *Kim buy* instead of *Kim buys*)
- Inflectional morphology (*–ed*, *-s*, and *-'s*)
- Derivational morphological lessons
    - Constancy of spelling despite change in pronunciation of the vowel (e.g., *mine* to *mineral*)
    - "*rupt*" as the root (e.g., *corrupt, disrupt, etc.*)
    - Change of vowel sounds despite change in the spelling when adding *-ity* or *–tion* (e.g., *familiar* and *familiarity; combine* and *combination*)
    - The suffix /shun/- (*-ion*, and *-ian*) (e.g., *production* and *magician*)
- Orthographic lessons
    - FLOSS Rule (e.g., *staff*, *bill*, *brass*, and *buzz*)
    - Rules for adding a suffix to a word (e.g. *ride* [drop the *e* before adding *ing*])
    - Rules for making words plural (e.g. *cities* [change the *y* to *i* and add *es*])
    - When to use Hard C for /k/ and Soft C for /s/ (e.g., *cat* and *celery*)
    - When to use Hard G for /g/ and Soft G for /j/ (e.g., *gate* and *gym*)
    - When to use the diphthong *oi* and *oy* for /oi/ (e.g., *boil* and *boy*)
    - When to use the diphthong *ou* and *ow* for /ow/ (e.g., *house* and *cow*)

- Rule for spelling /k/ sound in final position (e.g., *milk, week, make,* and *garlic*)
- Final *v* rule (e.g., *have*, *love, etc.*)
- Rule for *–tch* for /ch/ (e.g., *batch, kitchen, etc.*)
- Words that end in /g/ (e.g. *leg* versus *ledge*)

All of the phonological lessons and all of the morphological lessons with inflectional endings, *-s* and *'s,* were created by the researcher. The morphological lessons with inflectional ending *–ed* were based upon work from Honig, Diamond, and Gutlohn (2000). The derivational morphological lessons were based upon work from Henry (2003) and Johnston, Bear, & Invernizzi (2006). Many of the orthographic lessons came from (Carreker, 2005b). All of the lessons were incorporated during the language arts classes. Two language arts teachers taught the lessons. In total, both teachers taught 14 class sections of language arts. Seven class sections were chosen to participate in the first eight weeks of intervention. The remaining seven class sections served as the control for the first eight weeks but received the treatment during the second eight weeks. The lessons were given three times a week for 25 minutes each time. The teachers followed specific lesson plans for implementation of the intervention, and each teacher followed a script for each lesson. The procedures for each lesson were based upon a direct instruction approach and incorporated a background section that gave an overview of the lesson. The lessons incorporated modeling by the teacher, guided practice, independent practice, and immediate corrective feedback. The experimental

group received the intervention during the first eight weeks while the control group continued with their daily Language Arts lessons.

Fidelity of Implementation

The researcher observed the students in their classroom setting three times before the study began. Examples of students' writings were observed before the study to determine what specific AE errors students tended to make. Each class was observed by the researcher and the testing coordinator three times each week during the instructional period. Fidelity of implementation was met by observing the classes and using a checklist (See Appendix F) to record the students' and teachers' behavior.

Teacher training occurred in December during the teachers' planning period. During the first week of January a follow-up training session occurred before the study began. This allowed the researcher to review the materials and lessons with the teachers. The researcher provided a testing schedule and testing procedures for teachers. In addition, this allowed the teachers to ask any additional questions that they may have had regarding the implementation of the study. The teachers were also administered the Dianostic Evaluation of Language Variation (DELV) Screener (Seymour et al., 2003) during the training period to determine if they spoke AAVE. Both teachers answered all of the 15 items correctly.

In addition, teacher training occurred throughout the study. The researcher provided the teachers with booster training sessions once a week during the teacher's planning period. The sessions consisted of positive and negative teacher and student behaviors that were observed by the researcher or the test coordinator, such as if the

teachers followed the script or if the student's stayed on task. The booster session also provided an opportunity to discuss the following week's lessons, and it gave teachers an opportunity to ask questions.

Prior to the study, the testing coordinator provided the researcher with student demographical information such as students' names (which were coded), date of birth, gender, ethnicity, socio-economic status, and placement in any special programs.

Description of Communities and Schools

The research study took place on a campus in a large urban school district in the Texas. Table 1 provides a brief description of the district that is taken from the Texas Education Agency Academic Excellence Indicator System (AEIS) for 2004-2005.

Table 1

Demographic Comparison between the District and the Campus (AEIS, 2004-2005)

Category	District	Campus
Total Enrollment	208,454	640
Ethnic Distribution		
African American	29.1	84.4
Hispanic	59.0	14.6
White	8.8	0.5
Native American	0.1	0.0
Asian/Pacific Islander	3.0	0.5
Economically Disadvantaged	82.8	93.2
Limited English Proficient	28.5	4.9
At-Risk	63.0	75.2

Note. All the values represent mean percentages with the exception of Total Enrollment, which is the actual number of students attend -ing the school.

For 2006-2007, the school received an accountability rating of *Academically Unacceptable* by the Texas Education Agency. In the school's feeder pattern, the majority of the students attended five elementary schools that feed into this middle school and another middle school. Four of the elementary schools that the students attended the previous year received an *Academically Acceptable* rating and the other received a rating of *Recognized*. The neighboring middle school in the feeder pattern is

listed as *Academically Unacceptable* and the high school in the feeder pattern is listed as *Academically Unacceptable* as well.

Selection of the Sample

The principal agreed to allow the study to be conducted at the school. Teachers received assent forms to determine if they wanted to participate in the study. Participants received assent forms and the participants' parent(s)/guardian(s) received consent forms to allow their child to participate in the study. The sample included 142 students. All of the participants were regular education students and none received special services such as gifted and talented education or special education. In addition, none were classified as bilingual or English Language Learners (ELL).

Data Collection

Data were collected prior to, during, and after the first and second eight weeks of implementation. The researcher used an observation tool to ensure fidelity of implementation. The researcher and test coordinator for the school observed the teachers to ensure inter-rater reliability. The data that were collected included:

- Pretest/Posttest 1/Posttest 2: Criterion-referenced spelling assessment
- Pretest/Posttest 1/Posttest 2: Criterion-referenced sentence dictation task
- *DELV*—Screening section
- *WRAT3*- Spelling Subtest

Data Analyses

The pretest/posttest 1/posttest 2 spelling words were analyzed for being either correct or incorrect. Each correct item received a score of "1", and each incorrect item received a score of "0". The sentence dictation task was scored with a "1" if the target word in each sentence was correctly spelled or "0" if the target word was incorrectly spelled. The pretest/posttest 1/posttest 2 scores for the spelling and the sentence dictation tasks were analyzed using MANOVA.

Summary

The implementation of the intervention provided an insight into the phonological, morphological, and orthographic knowledge of students who are speakers of AAVE. This study provided those students who make dialect-related errors an intervention that they can use to improve their spelling performance. Since phonological, morphological, and orthographic knowledge is a predictor of spelling achievement, this intervention assisted students who are speakers of AAVE in improving their spelling performance on all of the measures used in this study.

CHAPTER IV

RESULTS

This chapter presents the results of the study. Fidelity of implementation is addressed first. The statistical analyses that were conducted on the data are reported in three sections. The first section is the preliminary analyses, which includes information about the fidelity of implementation and gives the scores on all of the instruments. Substantive hypotheses about the administration of the tests appear next. This section also includes descriptive statistics. The third section is the ancillary analyses. This section provides growth curves that were plotted for each of the classrooms on each of the instruments in the study.

Fidelity of Implementation

Due to the design of the study, insuring fidelity was extremely important. As noted earlier (Figure 1), both teachers had experimental and control classrooms in both parts of the study, the first eight weeks and the second eight weeks. To ensure that the study would not become contaminated, all classrooms were observed, experimental and control, three times a week. This allowed the researcher to make certain that the intervention would not be used with the control group of students and to make sure the intervention was being implemented appropriately with the experimental group. Using the Intervention Observation Form (see Appendix F), teachers' behaviors were observed to determine if they followed the script and the different features of each lesson, such as providing time for questions or clarifying any parts of the lesson. In addition, students

were observed to determine the types of behaviors they exhibited while the lessons were being taught.

The results showed that overall the teachers only implemented the intervention with the experimental group of students and did not incorporate the intervention with the control group. Teachers followed the directions provided with each lesson. They gave students ample time to respond to questions, and they provided students with corrective feedback. The teachers used AE while implementing the intervention and when they were not using the intervention they spoke in AE. The only exception came when teachers disciplined students; they sometimes used AAVE.

The students participated in the lessons. They were eager to ask questions when needed or ask for clarification. Students were familiar with the various forms of AAVE that were presented in the lessons and often provided other examples of AAVE words from that particular lesson that were knowledgeable to them. Students remained on task and seemed to enjoy the intervention, especially the review lessons that incorporated games that they played.

Preliminary Analyses

The present study involved two classroom language arts teachers implementing a direct instruction intervention in phonological, morphological, and orthographic knowledge of spelling. The direct instruction procedures included giving the background of each lesson, modeling by the teacher, guided practice, independent practice, and immediate corrective feedback. One of the language arts teachers has been teaching for a total of three years, with this particular year being her first year in a middle school, at the

sixth-grade level. The second teacher has been teaching for two years, with both years being at the sixth-grade level. Teachers were given a script to follow with each lesson given to the students.

The study included all sixth-grade students who were not receiving special services, such as gifted and talented, special education, or bilingual or English Language Learner (ELL) services. Students were included in this study based upon the results on the DELV (2003). The DELV was an oral measure of dialect, and the few students who did not miss any items on the DELV were still included because they made AAVE related errors in their spelling on the criterion-referenced spelling assessment and/or the sentence writing task.

The study included 142 total students, with 65 students in the control group and 77 students in the control group. This study did not limit itself to African American students only since other ethnicities can also be speakers of AAVE. Students consisted of three different ethnicities. The study was comprised of mostly African American students, with 124 students. Other ethnicities included 17 Hispanic students and one Asian student. The gender distribution of the 142 students was 73 females and 69 males. The group assignment, gender, and ethnic breakdown of the students are listed in Tables 2, 3, and 4.

Table 2

Group Distribution

Value	Frequency	Percent	Valid Percent	Cumulative Percent
0	65	45.8	45.8	45.8
1	77	54.2	54.2	100.0
Total	142	100.0	100.0	

Note: "0" = Control group and "1" = Experimental group

Table 3

Ethnicity Distribution

Value	Frequency	Percent	Valid Percent	Cumulative Percent
A	124	87.3	87.3	87.3
H	17	12.0	12.0	99.3
S	1	.7	.7	100.0
Total	142	100.0	100.0	

Note: "A" = African American; "H" = Hispanic; "S" = Asian

Table 4

Gender Distribution

Value	Frequency	Percent	Valid Percent	Cumulative Percent
F	73	51.4	51.4	51.4
M	69	48.6	48.6	100.0
Total	142	100.0	100.0	

The DELV (2003) was given as a pretest measure to determine the language variation status of the participants. The screening section of the DELV was administered one on one by the researcher and the testing coordinator for the school. The test is an oral measure and included 15 items in which the participants had to repeat five phrases with target words that are commonly mispronounced by AAVE speakers. In addition, participants had to complete ten sentences with the appropriate subject-verb agreement based upon errors that students who are speakers of AAVE commonly make. The participants received a score point of one if they pronounced the AE form of the word or if they provided the correct AE subject-verb agreement. The participants received no points if they pronounced the AAVE form of the word, provided the incorrect subject-verb agreement, or if they recited anything else other than the AE pronunciation of the target word or the correct AE subject-verb agreement. Students who received less than 12 AE responses were characterized as AAVE or more than 5 AAVE responses. The reliability analysis for the DELV is presented in Table 5. The Cronbach's alpha for the scores on the DELV was 0.857.

Table 5

Reliability Analysis for the DELV

Item	Item-Total Statistics	
	Corrected Item-Total Correction	alpha-if Item Deleted
DELV1	.2209	.8588
DELV2	.3135	.8562
DELV3	.3197	.8569
DELV4	.3099	.8565
DELV5	.3529	.8566
DELV6	.5402	.8457
DELV7	.4802	.8492
DELV8	.6259	.8410
DELV9	.5990	.8423
DELV10	.6607	.8386
DELV11	.6122	.8415
DELV12	.5185	.8470
DELV13	.4587	.8503
DELV14	.6217	.8411
DELV15	.6532	.8392

When alpha-if-item-deleted statistics are higher than the Cronbach's alpha for scores on the full scale, the item can be deemed hurtful to reliability, and the item is not performing properly, at least in the given sample. Similarly, when the corrected item

discrimination coefficient is close to zero, and especially if the discrimination coefficient is negative, the item again is not performing suitably. Thus, the Table 5 coefficients, like those reported in subsequent tables generally with respect to the scores on the study's other measures, suggest that the items worked well in the present sample.

A modified version of the sentence dictation task (Charity et al., 2004) was administered three times to students by their language arts teacher. The sentence dictation task was administered as a pretest, a posttest (posttest 1), and again as a second posttest (posttest 2). The pretest was given, and then eight weeks later, posttest 1 was given. Another eight weeks later, posttest 2 was given. The test consisted of 20 sentences that were dictated to the students. Within each sentence, target words were scored to determine if the participants' isolated spelling errors transferred into their writing. The teacher repeated the sentence to the participants twice and the participants had to write the sentences on their papers. The teachers were instructed to repeat the sentence twice in order to keep from breaking down each word in the sentence to refrain from turning the process into another spelling test. The sentences were short in length. At the end of the test, however, the participants were able to ask their teacher to repeat a sentence, if needed. The sentences were scored based upon spelling the target word(s) correctly in each sentence. The reliability analyses for the sentence dictation task follow in Tables 6, 7, and 8. The Cronbach's alpha for the scores on the 48 items on the sentence writing pretest was .8161. The Cronbach's alpha for the scores on the 48 items on the sentence writing posttest 1 was .8126. The Cronbach's alpha for the scores on the 48 items on the sentence writing posttest 2 was .4435.

Table 6

Reliability Analysis for the Sentence Writing Task Pretest

Item	Item-Total Statistics	
	Corrected Item-Total Correction	alpha-if Item Deleted
SENTPR1	.0000	.8165
SENTPR2	.3333	.8115
SENTPR3	.4177	.8078
SENTPR4	.0000	.8165
SENTPR5	.5148	.8014
SENTPR6	-.0561	.8173
SENTPR7	.2100	.8145
SENTPR8	.4811	.8047
SENTPR9	.0000	.8165
SENTPR10	.2938	.8133
SENTPR11	.4101	.8081
SENTPR12	.0000	.8165
SENTPR13	.0000	.8165
SENTPR14	.2671	.8140

Table 6 (continued)

Item	Item-Total Statistics	
	Corrected Item-Total Correction	alpha-if Item Deleted
SENTPR15	.2251	.8140
SENTPR16	.1232	.8158
SENTPR17	.4269	.8074
SENTPR18	.0000	.8165
SENTPR19	.0000	.8165
SENTPR20	.2100	.8145
SENTPR21	.2100	.8145
SENTPR22	.4806	.8046
SENTPR23	.2815	.8130
SENTPR24	.5639	.8002
SENTPR25	-.0364	.8176
SENTPR26	.0000	.8165
SENTPR27	.5149	.8028
SENTPR28	.4283	.8073
SENTPR29	.0408	.8171
SENTPR30	.4365	.8068
SENTPR31	.3739	.8107

Table 6 (continued)

Item	Item-Total Statistics	
	Corrected Item-Total Correction	alpha-if Item Deleted
SENTPR32	.2077	.8151
SENTPR33	.3951	.8109
SENTPR34	.2246	.8139
SENTPR35	.2269	.8141
SENTPR36	.2269	.8141
SENTPR37	.3821	.8108
SENTPR38	.2791	.8132
SENTPR39	.1890	.8184
SENTPR40	.0931	.8161
SENTPR41	.0000	.8165
SENTPR42	.1799	.8151
SENTPR43	.1408	.8157
SENTPR44	.4827	.8045
SENTPR45	.0931	.8161
SENTPR46	.0000	.8165
SENTPR47	.0000	.8165
SENTPR48	.2480	.8133

Table 7

Reliability Analysis for the Sentence Writing Task Posttest 1

Item	Item-Total Statistics	
	Corrected Item-Total Correction	alpha-if Item Deleted
SENTPO1	.0000	.8130
SENTPO2	.3748	.8069
SENTPO3	.5712	.7955
SENTPO4	.0000	.8130
SENTPO5	.4643	.8016
SENTPO6	.0000	.8130
SENTPO7	.0654	.8128
SENTPO8	.4245	.8042
SENTPO9	.1377	.8120
SENTPO10	.1292	.8121
SENTPO11	.3152	.8089
SENTPO12	.0000	.8130
SENTPO13	.1377	.8120
SENTPO14	.3072	.8103
SENTPO15	.1574	.8116
SENTPO16	.1104	.8123
SENTPO17	.4012	.8045

Table 7 (continued)

Item	Item-Total Statistics	
	Corrected Item-Total Correction	alpha-if Item Deleted
SENTPO18	.0000	.8130
SENTPO19	.3174	.8094
SENTPO20	.3424	.8084
SENTPO21	.1619	.8116
SENTPO22	.4864	.8003
SENTPO23	.3711	.8079
SENTPO24	.2931	.8089
SENTPO25	.2852	.8094
SENTPO26	.0000	.8130
SENTPO27	.2972	.8117
SENTPO28	.4503	.8021
SENTPO29	.0414	.8130
SENTPO30	.3418	.8071
SENTPO31	.1956	.8109
SENTPO32	.0000	.8130
SENTPO33	.4571	.8074
SENTPO34	.3315	.8101
SENTPO35	.2344	.8111

Table 7 (continued)

Item	Item-Total Statistics	
	Corrected Item-Total Correction	alpha-if Item Deleted
SENTPO36	.2344	.8111
SENTPO37	.4288	.8069
SENTPO38	.3138	.8089
SENTPO39	.5004	.7996
SENTPO40	.1619	.8116
SENTPO41	.0000	.8130
SENTPO42	.1619	.8116
SENTPO43	.3855	.8077
SENTPO44	.5735	.7953
SENTPO45	.0895	.8125
SENTPO46	.0000	.8130
SENTPO47	.0000	.8130
SENTPO48	.2308	.8106

Table 8

Reliability Analysis for the Sentence Writing Task Posttest 2

Item	Item-Total Statistics	
	Corrected Item-Total Correction	alpha-if Item Deleted
SENT3_1	.0000	.4437
SENT3_2	.0000	.4437
SENT3_3	.0432	.4551
SENT3_4	.0000	.4437
SENT3_5	.3033	.3926
SENT3_6	.1165	.4370
SENT3_7	.0000	.4437
SENT3_8	.0136	.4694
SENT3_9	.0000	.4437
SENT3_10	-.0112	.4481
SENT3_11	.0660	.4464
SENT3_12	.0000	.4437
SENT3_13	.0000	.4437
SENT3_14	.1165	.4370
SENT3_15	-.0112	.4481
SENT3_16	-.0550	.4525
SENT3_17	.2594	.3982

Table 8 (continued)

Item	Item-Total Statistics	
	Corrected Item-Total Correction	alpha-if Item Deleted
SENT3_18	-.0083	.4459
SENT3_19	.1165	.4370
SENT3_20	.1165	.4370
SENT3_21	.0000	.4437
SENT3_22	.0074	.4553
SENT3_23	.0000	.4437
SENT3_24	.3125	.4049
SENT3_25	.0000	.4437
SENT3_26	-.0985	.4568
SENT3_27	.0445	.4594
SENT3_28	.2890	.3914
SENT3_29	-.0083	.4459
SENT3_30	.1166	.4334
SENT3_31	-.0700	.4503
SENT3_32	.0539	.4415
SENT3_33	.0000	.4437
SENT3_34	.0000	.4437
SENT3_35	.3073	.4231
SENT3_36	.3073	.4231

Table 8 (continued)

Item	Item-Total Statistics	
	Corrected Item-Total Correction	alpha-if Item Deleted
SENT3_37	.1796	.4325
SENT3_38	.1796	.4325
SENT3_39	.1695	.4221
SENT3_40	.0000	.4437
SENT3_41	.1165	.4370
SENT3_42	.1165	.4370
SENT3_43	.0000	.4437
SENT3_44	.2724	.3938
SENT3_45	.0000	.4437
SENT3_46	.0000	.4437
SENT3_47	.0000	.4437
SENT3_48	.3073	.4231

A criterion-referenced spelling assessment was administered to the participants at three different times. The spelling assessment was created by the researcher and included 81 words that were: (1) found in the literature on AAVE; (2) observed in students' writings; and (3) found in sixth-grade spelling textbooks. The spelling assessment consisted of three different spelling tests with very similar words. The researcher did not use the same test so that students would not be able to learn the words that had

previously been tested. The assessments consisted of three different sets of words and included words that had phonological and morphological (inflectional) characteristics of AAVE. In addition, the words included derivational morphology and an orthographic section that would assist the participants in spelling based upon orthographic generalizations. The teachers dictated the words in the traditional spelling test format, which included saying the word, reading a sentence with the word, and then repeating the word. The reliability analyses for the scores on the three criterion-referenced spelling assessments follow in Tables 9, 10, and 11. The Cronbach's alpha for the scores on the criterion-referenced spelling assessment pretest with 81 items is .9282. The Cronbach's alpha for the scores on the criterion-referenced spelling assessment posttest 1 with 81 items is .9106. The Cronbach's alpha for the scores on the criterion-referenced spelling assessment posttest 2 with 81 items was .8779.

Table 9

Reliability Analysis for the Criterion-Referenced Spelling Pretest

Item	Item-Total Statistics	
	Corrected Item-Total Correction	alpha-if Item Deleted
SPELPR1	.0000	.9283
SPELPR2	.0000	.9283
SPELPR3	.1795	.9281
SPELPR4	.1456	.9282
SPELPR5	.0607	.9286
SPELPR6	.3585	.9275
SPELPR7	.0548	.9285
SPELPR8	.2529	.9279
SPELPR9	.2717	.9278
SPELPR10	.2005	.9281
SPELPR11	-.0817	.9286
SPELPR12	.3797	.9272
SPELPR13	.5191	.9263
SPELPR14	.1232	.9283
SPELPR15	.4221	.9274
SPELPR16	.2496	.9279
SPELPR17	.2928	.9277

Table 9 (continued)

Item	Item-Total Statistics	
	Corrected Item-Total Correction	alpha-if Item Deleted
SPELPR18	.5161	.9265
SPELPR19	.4131	.9273
SPELPR20	.3705	.9274
SPELPR21	.2261	.9280
SPELPR22	.1506	.9282
SPELPR23	.1437	.9282
SPELPR24	.2225	.9279
SPELPR25	.3073	.9277
SPELPR26	.4576	.9268
SPELPR27	.4835	.9265
SPELPR28	.4955	.9264
SPELPR29	.5097	.9265
SPELPR30	.3689	.9273
SPELPR31	.2369	.9283
SPELPR32	.2879	.9278
SPELPR33	.3364	.9276
SPELPR34	.5846	.9260
SPELPR35	.2546	.9279
SPELPR36	.2481	.9279

Table 9 (continued)

Item	Item-Total Statistics	
	Corrected Item-Total Correction	alpha-if Item Deleted
SPELPR37	.2614	.9278
SPELPR38	.2668	.9278
SPELPR39	.4726	.9267
SPELPR40	.4140	.9270
SPELPR41	.4162	.9270
SPELPR42	.4428	.9268
SPELPR43	.5714	.9260
SPELPR44	.4153	.9270
SPELPR45	.3340	.9275
SPELPR46	.3159	.9277
SPELPR47	.2097	.9280
SPELPR48	.4115	.9270
SPELPR49	.3929	.9271
SPELPR50	.2603	.9279
SPELPR51	.3234	.9275
SPELPR52	.3319	.9276
SPELPR53	.5022	.9264
SPELPR54	.4302	.9269
SPELPR55	.4245	.9269

Table 9 (continued)

Item	Item-Total Statistics	
	Corrected Item-Total Correction	alpha-if Item Deleted
SPELPR56	.4062	.9271
SPELPR57	.5124	.9264
SPELPR58	.4874	.9266
SPELPR59	.5951	.9259
SPELPR60	.3963	.9271
SPELPR61	.6284	.9255
SPELPR62	.4112	.9271
SPELPR63	.5489	.9262
SPELPR64	.4529	.9268
SPELPR65	.4761	.9266
SPELPR66	.2245	.9282
SPELPR67	.1994	.9284
SPELPR68	.3941	.9272
SPELPR69	.1544	.9284
SPELPR70	.4802	.9266
SPELPR71	.5590	.9261
SPELPR72	.5126	.9264
SPELPR73	.4835	.9265
SPELPR74	.4943	.9265

Table 9 (continued)

Item	Item-Total Statistics	
	Corrected Item-Total Correction	alpha-if Item Deleted
SPELPR75	.5328	.9262
SPELPR76	.5551	.9260
SPELPR77	.1543	.9288
SPELPR78	.2577	.9280
SPELPR79	.4511	.9368
SPELPR80	.1067	.9284
SPELPR81	.1834	.9286

Table 10

Reliability Analysis for the Criterion-Referenced Spelling Assessment Posttest 1

Item	Item-Total Statistics	
	Corrected Item-Total Correction	alpha-if Item Deleted
SPELPO1	.0000	.9107
SPELPO2	.1999	.9104
SPELPO3	-.0032	.9109
SPELPO4	.0000	.9107
SPELPO5	.0214	.9108
SPELPO6	.2455	.9101
SPELPO7	.2992	.9097
SPELPO8	.4722	.9097
SPELPO9	.4926	.9084
SPELPO10	.1690	.9104
SPELPO11	.1424	.9105
SPELPO12	.2182	.9103
SPELPO13	.1804	.9103
SPELPO14	.2283	.9102
SPELPO15	.1382	.9105
SPELPO16	.3977	.9099
SPELPO17	.2307	.9103
SPELPO18	.3298	.9099

Table 10 (continued)

Item	Item-Total Statistics	
	Corrected Item-Total Correction	alpha-if Item Deleted
SPELPO19	.4053	.9092
SPELPO20	.6147	.9084
SPELPO21	.3827	.9093
SPELPO22	.3718	.9092
SPELPO23	.3318	.9095
SPELPO24	.4074	.9091
SPELPO25	.4046	.9091
SPELPO26	.3691	.9092
SPELPO27	.5186	.9087
SPELPO28	.3423	.9095
SPELPO29	.0427	.9127
SPELPO30	.2905	.9098
SPELPO31	.2382	.9106
SPELPO32	.2746	.9099
SPELPO33	.3266	.9096
SPELPO34	.5017	.9086
SPELPO35	.5727	.9083
SPELPO36	.4336	.9087
SPELPO37	.2002	.9105

Table 10 (continued)

Item	Item-Total Statistics	
	Corrected Item-Total Correction	alpha-if Item Deleted
SPELPO38	.2153	.9102
SPELPO39	.3938	.9094
SPELPO40	.3482	.9100
SPELPO41	.2245	.9103
SPELPO42	.5457	.9080
SPELPO43	.0504	.9120
SPELPO44	.3723	.9091
SPELPO45	.3603	.9093
SPELPO46	.5075	.9081
SPELPO47	.4197	.9087
SPELPO48	.4659	.9083
SPELPO49	.5633	.9074
SPELPO50	.3135	.9097
SPELPO51	.3429	.9094
SPELPO52	.4044	.9090
SPELPO53	.3028	.9099
SPELPO54	.2708	.9099
SPELPO55	.4086	.9088
SPELPO56	.3334	.9095

Table 10 (continued)

Item	Item-Total Statistics	
	Corrected Item-Total Correction	alpha-if Item Deleted
SPELPO57	.4646	.9083
SPELPO58	.5049	.9082
SPELPO59	.4947	.9080
SPELPO60	.2556	.9102
SPELPO61	.3079	.9096
SPELPO62	.3040	.9098
SPELPO63	.4078	.9089
SPELPO64	.3283	.9097
SPELPO65	.2650	.9101
SPELPO66	.2011	.9109
SPELPO67	.2467	.9102
SPELPO68	.5452	.9075
SPELPO69	.2366	.9101
SPELPO70	.3627	.9093
SPELPO71	.5018	.9080
SPELPO72	.3690	.9092
SPELPO73	.3839	.9091
SPELPO74	.4213	.9087
SPELPO75	.4978	.9079

Table 10 (continued)

Item	Item-Total Statistics	
	Corrected Item-Total Correction	alpha-if Item Deleted
SPELPO76	.4162	.9088
SPELPO77	.0862	.9113
SPELPO78	.4019	.9089
SPELPO79	.3901	.9090
SPELPO80	.2425	.9101
SPELPO81	.0589	.9113

Table 11

Reliability Analysis for the Criterion-Referenced Spelling Assessment Posttest 2

Item	Item-Total Statistics	
	Corrected Item-Total Correction	alpha-if Item Deleted
SPEL3_1	.0000	.8780
SPEL3_2	.0000	.8780
SPEL3_3	.0000	.8780
SPEL3_4	.0924	.8778
SPEL3_5	.0000	.8780
SPEL3_6	-.0511	.8782
SPEL3_7	.0277	.8781
SPEL3_8	.2664	.8769
SPEL3_9	.3623	.8756
SPEL3_10	.1629	.8774
SPEL3_11	.0000	.8780
SPEL3_12	.4216	.8757
SPEL3_13	.3152	.8763
SPEL3_14	.4760	.8740
SPEL3_15	.2805	.8771
SPEL3_16	.2886	.8767
SPEL3_17	.0000	.8780
SPEL3_18	.1601	.8776

Table 11 (continued)

Item	Item-Total Statistics	
	Corrected Item-Total Correction	alpha-if Item Deleted
SPEL3_19	.1320	.8776
SPEL3_20	.3493	.8758
SPEL3_21	.0966	.8778
SPEL3_22	.2342	.8774
SPEL3_23	.0000	.8780
SPEL3_24	.2179	.8771
SPEL3_25	.0773	.8779
SPEL3_26	-.0089	.8781
SPEL3_27	.6472	.8707
SPEL3_28	.0000	.8780
SPEL3_29	.1696	.8774
SPEL3_30	.3546	.8754
SPEL3_31	.0251	.8782
SPEL3_32	.3237	.8758
SPEL3_33	.1709	.8774
SPEL3_34	.2112	.8771
SPEL3_35	.2973	.8765
SPEL3_36	.1835	.8775
SPEL3_37	.3468	.8756

Table 11 (continued)

Item	Item-Total Statistics	
	Corrected Item-Total Correction	alpha-if Item Deleted
SPEL3_38	.3881	.8750
SPEL3_39	-.0655	.8787
SPEL3_40	.2655	.8767
SPEL3_41	.3184	.8759
SPEL3_42	.3007	.8761
SPEL3_43	.4711	.8735
SPEL3_44	.0502	.8786
SPEL3_45	.1061	.8778
SPEL3_46	.5206	.8733
SPEL3_47	.0455	.8785
SPEL3_48	.4244	.8743
SPEL3_49	.2642	.8767
SPEL3_50	.4877	.8735
SPEL3_51	.1492	.8777
SPEL3_52	.3771	.8751
SPEL3_53	.2469	.8768
SPEL3_54	.2629	.8766
SPEL3_55	.2209	.8770
SPEL3_56	.3311	.8758

Table 11 (continued)

Item	Item-Total Statistics	
	Corrected Item-Total Correction	alpha-if Item Deleted
SPEL3_57	.2277	.8769
SPEL3_58	.4147	.8749
SPEL3_59	.3497	.8755
SPEL3_60	.3240	.8760
SPEL3_61	.0793	.8791
SPEL3_62	.3547	.8754
SPEL3_63	.4962	.8731
SPEL3_64	.4922	.8733
SPEL3_65	.3077	.8762
SPEL3_66	.4427	.8740
SPEL3_67	.2167	.8771
SPEL3_68	.4969	.8731
SPEL3_69	.0424	.8790
SPEL3_70	.3442	.8756
SPEL3_71	.1209	.8793
SPEL3_72	.3835	.8750
SPEL3_73	.4074	.8746
SPEL3_74	.2598	.8766
SPEL3_75	.1716	.8781

Table 11 (continued)

Item	Item-Total Statistics	
	Corrected Item-Total Correction	alpha-if Item Deleted
SPEL3_76	.4358	.9741
SPEL3_77	.1375	.8777
SPEL3_78	.4185	.8747
SPEL3_79	.3020	.8764
SPEL3_80	.3960	.8748
SPEL3_81	.1206	.8783

Last, the *Wide Range Achievement Test 3 – Spelling Subtest* (*WRAT3*) (Wilkinson, 1993) was administered as a pretest measure to the participants by the language arts teachers. This test was used to determine the spelling levels of the participants. The test consisted of 55 items. The participants were given credit for the first 15 items, as suggested by the testing manual, because points were given for spelling their names correctly and writing the correct letter names. Due to the age of the participants, they only completed items 16-55. The 40 words were given to participants in traditional spelling test format. The reliability analysis for the *WRAT3*-Spelling Subtest is presented in Table 12. The Cronbach's alpha for the scores on the *WRAT3*-Spelling Subtest Pretest with 55 items is .8658.

Table 12

Reliability Analysis for WRAT3-Spelling Subtest

Item	Item-Total Statistics	
	Corrected Item-Total Correction	alpha-if Item Deleted
WRATPR1	.0000	.8661
WRATPR2	.0000	.8661
WRATPR3	.0000	.8661
WRATPR4	.0000	.8661
WRATPR5	.0000	.8661
WRATPR6	.0000	.8661
WRATPR7	.0000	.8661
WRATPR8	.0000	.8661
WRATPR9	.0000	.8661
WRATPR10	.0000	.8661
WRATPR11	.0000	.8661
WRATPR12	.0000	.8661
WRATPR13	.0000	.8661
WRATPR14	.0000	.8661
WRATPR15	.0000	.8661
WRATPR16	.0000	.8661
WRATPR17	.0000	.8661

Table 12 (continued)

Item	Item-Total Statistics	
	Corrected Item-Total Correction	alpha-if Item Deleted
WRATPR18	.0000	.8661
WRATPR19	.0000	.8661
WRATPR20	.0000	.8661
WRATPR21	.0000	.8661
WRATPR22	.2029	.8652
WRATPR23	.2365	.8647
WRATPR24	.3456	.8630
WRATPR25	.1983	.8651
WRATPR26	.4183	.8615
WRATPR27	.2440	.8645
WRATPR28	.5278	.8587
WRATPR29	.4011	.8618
WRATPR30	.6206	.8560
WRATPR31	.4705	.8602
WRATPR32	.2302	.8651
WRATPR33	.4218	.8615
WRATPR34	.3829	.8627
WRATPR35	.2494	.8664
WRATPR36	.2946	.8646

Table 12 (continued)

Item	Item-Total Statistics	
	Corrected Item-Total Correction	alpha-if Item Deleted
WRATPR37	.4416	.8610
WRATPR38	.4527	.8608
WRATPR39	.4307	.8614
WRATPR40	.5425	.8582
WRATPR41	.5749	.8573
WRATPR42	.6163	.8561
WRATPR43	.5378	.8584
WRATPR44	.5930	.8572
WRATPR45	.6081	.8570
WRATPR46	.4747	.8604
WRATPR47	.3867	.8626
WRATPR48	.4052	.8622
WRATPR49	.4498	.8613
WRATPR50	.3233	.8634
WRATPR51	.2530	.8644
WRATPR52	-.0740	.8667
WRATPR53	.1072	.8658
WRATPR54	.0000	.8661
WRATPR55	.0000	.8661

Of the four different instruments that were administered to the participants, all had an internal consistency above the .70 recommended in exploratory studies (Pallant, 2005), except for the sentence writing task on its third administration. On this administration, the alpha level was .4435, so scores on this instrument from the third administration were not used in further analyses. The alpha level for the scores on this assessment fell remarkably from the previous two administrations of .8161 and .8126. On the *DELV,* the first two administrations of the sentence writing task, the pretest/posttest 1/posttest 2 criterion referenced spelling assessment, and the *WRAT3*-Spelling Subtest, all alphas for the reliability analyses on the scores of the assessments were above .80, which indicates that the assessments were considered good scales.

Substantive Hypothesis and Descriptive Statistics

This section examines the results of the substantive hypothesis. The hypothesis was that a direct instruction intervention in phonology, morphology, and orthography would improve the spelling performance for speakers of AAVE. This section also provides the descriptive statistics for the assessments that were taken by the participants at different times in the study. It provides descriptive statistics on the control group and the experimental group. Comparisons can be made on the scores by the groups over time.

Substantive Hypothesis

To determine if there was a statistically significant difference between the groups on the *DELV* pretest, a one-way analysis of variance was performed. The results are presented in Table 13.

Table 13

Analysis of Variance for the DELV Pretest

Source	d.f.	Sum of Squares	Mean Squares	F Ratio	F Prob.	eta^2
Between Groups	1	.047	.047	.003	.960	.000
Within Groups	140	2150.777	15.363			
Total	141	2150.824				

Based on the DELV, there was no difference in the two groups. Only .047 the total variance can be explained and 2150.777 of the variance in the groups is due to chance. The DELV produced an η^2 of .000, which is relevant since the intervention had not been given.

To determine if there was a statistically significant difference between the groups on the *WRAT 3* – Spelling Subtest pretest, a one-way analysis of variance was performed. The results are presented in Table 14.

Table 14

Analysis of Variance for the WRAT 3 – Spelling Subtest Pretest

Source	d.f.	Sum of Squares	Mean Squares	F Ratio	F Prob.	eta^2
Between Groups	1	11.915	11.915	.378	.540	.003
Within Groups	140	4409.071	31.493			
Total	141	4420.986				

Based on the WRAT3-Spelling Subtest, 11.915 of the total variance can be explained and 4409.071 of the total variance in the groups is due to chance. The η^2 for

DELV produced a .003 effect, which is relevant because the intervention had not been given.

Change Score Analyses

The sentence writing tasks and the criterion-referenced spelling tests were administered at three different times. The difference in the total scores over time between the pretest and the first posttest is a change score. The change score analyses are presented for the sentence writing task and the criterion-referenced spelling test in Tables 15 and 16.

Table 15

Change Score Analysis of Differences in Spelling on the Sentence Writing Task for the Control Group and Experimental Group

Group	Mean	Standard Deviation	n
Control	2.585	2.106	65
Experimental	6.117	2.982	77

Note. The sentence writing task had 48 target words.

The sentence writing task produced a positive gain for both groups. The experimental made a mean gain of 6.117 (SD = 2.982) while the control group averaged a gain of 2.585 (SD = 2.106).

Table 16

Change Score Analysis of Differences in Spelling on the Spelling Criterion-Referenced Test for the Control Group and Experimental Group

Group	Mean	Standard Deviation	n
Control	-.200	5.197	65
Experimental	9.584	7.016	77

Note. The criterion-referenced spelling test had 81 words.

The experimental group made a mean gain of 9.584 (SD = 7.016) on the criterion-referenced spelling test from pretest to posttest 1, while the control group's mean of -.200 (SD = 5.197) was a slight decrease.

Descriptive Statistics

Descriptive statistics' results are provided to show the mean of the groups on all four assessments at the different testing times. The results are provided in Table 17.

Table 17

Means and Standard Deviations for the Control Group and Experimental Group on all Assessments

Variable	Group	Means	Standard Deviations
DELV Screening (Pretest)	Control	8.015	4.226
	Experimental	8.052	3.642
WRAT3 Spelling (Pretest)	Control	37.231	6.064
	Experimental	36.649	5.201
Sentence Writing (Pretest)	Control	39.908	4.655
	Experimental	40.481	3.834
Sentence Writing (Posttest 1)	Control	42.492	3.804
	Experimental	46.597	1.757
Sentence Writing (Posttest 2)	Control/Delayed Experimental	46.892	1.501
	Experimental/ Phase I	46.831	1.250
Spelling Criterion (Pretest)	Control	61.231	12.766
	Experimental	58.260	11.356
Spelling Criterion (Posttest 1)	Control	61.031	11.717
	Experimental	67.844	6.323
Spelling Criterion (Posttest 2)	Control/Delayed Experimental	69.185	8.611
	Experimental/ Phase I	65.429	7.085

Note. The control group consisted of 65 participants. The experimental group consisted of 77 participants. On Posttest 2 measures, the control group became the control/delayed experimental and the experimental became the experimental/phase I. During the second eight weeks, the control/ delayed experimental received the intervention, and the experimental/ phase I did not continue the intervention.

The DELV was given as a pretest measure only to determine if the participants displayed characteristics of AAVE in their oral language. Before the study began, the control group and the experimental group mean scores were similar on the 15-item test. The control group's mean score was 8.015 (SD = 4.226) and the experimental group's mean score was 8.052 (SD = 3.642). The mean scores for both of these groups imply that the students were speakers of AAVE because their mean score is below the recommended 12 or more for speakers to be categorized as being a speaker of AE.

The participants' mean scores on the 55-item WRAT3-Spelling Subtest pretest were similar for both groups before the study began. The experimental group received a mean score of 36.649 (SD = 5.201) while the control group received a mean score of 37.231 (SD = 6.064).

The experimental group's score and control participants' score were similar on the sentence writing task pretest as well. After the experimental group received the treatment, their mean score improved from 40.481 (SD = 3.834) to 46.597 (SD =1.757) on the 48-item test. Although the control group did not receive the treatment, their mean score on the sentence writing task improved slightly from 39.908 (SD = 4.655) to 42.492 (SD = 3.804). On the third administration of the sentence writing task, the control/delayed experimental group's mean score improved to 46.892 (SD = 1.501) after the second implementation of the treatment. The experimental/phase I group retained the information to maintain a mean score of 46.831 (SD = 1.250) that was similar to the mean score of 46.597 (SD = 1.757) on the second administration of the test. The control/delayed experimental group's mean score

of 46.892 (SD = 1.501) was comparable to the scores of the experimental group's mean score of 46.597 (SD = 1.757) immediately after the treatment.

The experimental group and the control group performed similarly on the 81-item criterion-referenced spelling pretest. The experimental group's mean score was 58.260 (SD = 11.356), and the control group's mean score was 61.231 (SD = 12.766). After the experimental group received the treatment, their score improved from 58.260 (SD = 11.356) to 67.844 (SD = 6.323). The mean score of the control group remained constant at 61.031 (SD = 11.717). After the control group became the experimental group (control/delayed experimental group) and received the treatment, their score improved to 69.185 (SD = 8.611). The control/delayed experimental group's mean score was 69.185 (SD = 8.611), which is comparable to the first experimental group's (experimental/phase I group) mean score of 67.844 (SD = 6.323). In addition, the experimental/phase I group's had a slight decrease in their mean score, from 67.844 (SD = 6.323) to 65.429 (SD = 7.085).

A one-way multivariate analysis of variance (MANOVA) was performed to evaluate mean differences on the change scores (see Tables 15 and 16) on two criterion variables, the sentence writing tasks and criterion-referenced spelling tests. MANOVA was utilized to determine if the intervention produced statistically significant differences in the two criterion variables. The group effect of the multivariate test of statistical significance for the experimental versus the control group produced a Wilks' lambda value of .505 with $p<.001$ ($F(2, 139) = 68.20$). The multivariate η^2 for group effect was .495.

A repeated measures MANOVA was used to determine the statistical significance of the differences of the means on the two tests, sentence writing tasks and criterion-referenced spelling tests, at two different times. Both tests were given as a pretest and as a posttest. For tests involving between-subjects intervention effects, the Wilks' lambda value for group effect was .395 with $p<.001$ ($F(2, 139) = 106.53$). The multivariate η^2 for group effect was .605. MANOVA produced a Wilks' lambda value of .155 for time effect with $p<.001$ ($F(2, 139) = 377.71$). The time effect produced a multivariate η^2 of .845. The group-by-time interaction effect produced a Wilks' lambda value of .788 with $p<.001$ ($F(2, 139) = 18.67$). The multivariate η^2 for group-by-time interaction effect was .212.

A repeated measure MANOVA was used to test mean differences on the criterion-referenced spelling tests given at three different times. The tests were given as a pretest, a posttest, and a second posttest. The tests of between-subjects main effect for the intervention produced a sum of squares of .09. The F calculated was <1.0 ($p = 0.985$). The group main effect produced a partial η^2 of .000. The time effect for the three spelling assessments produced a Wilks' lambda value of .442 with $p<.001$ ($F(2, 139) = 87.66$). The multivariate η^2 for time effect was .558. The group-by-time interaction effect produced a Wilks' lambda value of .339 with $p<.001$ $F(2, 139) = 135.55$). The multivariate η^2 for group-by-time interaction effect was .661.

The criterion-referenced spelling assessment was analyzed further to determine the descriptive statistics for the percentages correct for each area of emphasis,

phonological, morphological, and orthographic, within the 81-item test. The results are presented in Table 18.

Both groups were similar on the words that were designated as phonological words. The control group's mean percentage correct score was 80.855 (SD = 12.956) and the experimental group's mean percentage correct score was 78.259 (SD = 12.156). After the experimental group received the treatment, their mean percentage correct score improved to 85.810 (SD = 7.866) while the control group's mean percentage correct score fell slightly to 78.803 (SD = 14.247). After the control/delayed experimental group received the treatment on the second implementation of the intervention, their phonological mean percentage correct score improved to 82.735 (SD = 10.843). Eight weeks later, the experimental/phase I group's mean percentage correct score decreased from 85.810 (SD = 7.866) to 80.423 (SD = 9.227).

Before the study began, on the words that were designated as morphological words, the control group scored a mean percentage correct score of 65.680 (SD = 22.502) and the experimental group scored a mean percentage correct score of 59.391 (SD = 19.165). After the implementation of the intervention, the experimental group's morphological mean percentage correct score improved from 59.391 (SD = 19.165) to 74.675 (SD = 13.416). The control group's mean percentage correct score decreased slightly to 61.953 (SD = 20.557). After the second implementation of the intervention with the control/delayed experimental, their morphological mean percentage correct score improved to 80.947 (SD = 16.300) and the experimental/phase I group's mean percentage correct score remained similar to their first posttest eight weeks earlier. The

experimental/phase I group's new mean percentage correct score was 73.177 (SD = 12.510).

The control and experimental group had similar orthographic mean percentage correct pretest scores. The control group's orthographic mean percentage correct score was 79.725 (SD = 15.088) and the experimental group's orthographic mean percentage correct score was 77.458 (SD = 13.908). After the implementation of the intervention, the experimental group's orthographic mean percentage correct score increased from 77.458 (SD = 13.908) to 87.848 (SD = 7.928). The control group's orthographic mean percentage correct score remained similar to their pretest score. The control group's new orthographic mean percentage correct score was 78.571 (SD = 15.593). After the second implementation of the intervention, the control/delayed experimental group's orthographic mean percentage correct score improved from 78.571 (SD = 15.593) to 91.539 (SD = 9.482). The experimental/phase I group's orthographic mean percentage correct score remained similar to their (experimental) posttest eight weeks earlier. Their new orthographic mean percentage correct score was 88.033 (SD = 9.356). On all three measures of the spelling test, the control/delayed experimental group's scores were comparable to the experimental group's scores after each received the treatment.

Table 18

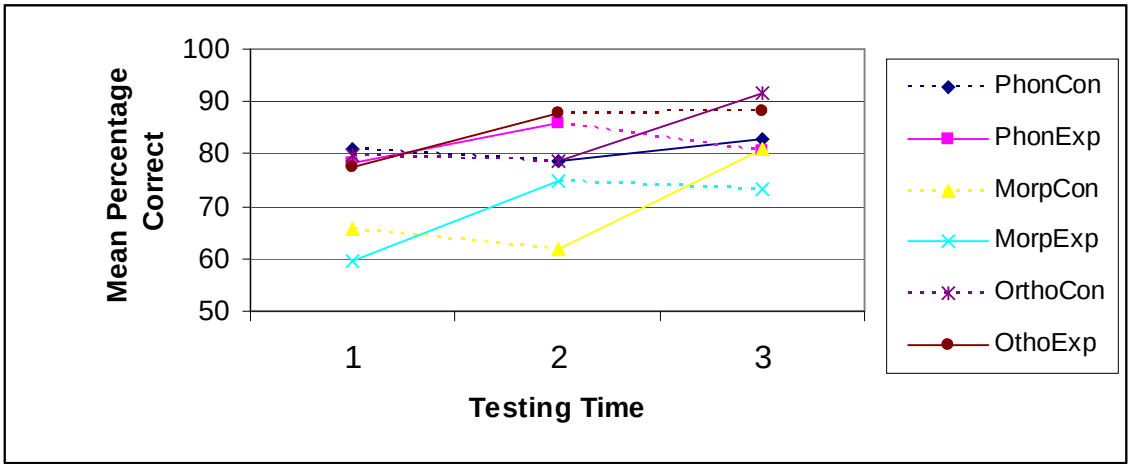
Mean Percentages Correct and Standard Deviations of Phonological, Morphological, and Orthographic Spelling Words on the Criterion-Referenced Spelling Assessment

Variable	Group	Means	Standard Deviations
Phonological Words (Pretest)	Control	80.855	12.956
	Experimental	78.259	12.156
Phonological Words (Posttest)	Control	78.803	14.247
	Experimental	85.810	7.866
Phonological Words (Posttest 2)	Control/Delayed Experimental	82.735	10.843
	Experimental/Phase I	80.423	9.227
Morphological Words (Pretest)	Control	65.680	22.502
	Experimental	59.391	19.165
Morphological Words (Posttest)	Control	61.953	20.557
	Experimental	74.675	13.416
Morphological Words (Posttest 2)	Control/Delayed Experimental	80.947	16.300
	Experimental/Phase I	73.177	12.510
Orthographic Words (Pretest)	Control	79.725	15.088
	Experimental	77.458	13.908
Orthographic Words (Posttest)	Control	78.571	15.593
	Experimental	87.848	7.928
Orthographic Words (Posttest 2)	Control/Delayed Experimental	91.539	9.48
	Experimental/Phase I	88.033	9.356

Note. The control group consisted of 65 participants. The experimental group consisted of 77 participants.

The experimental group increased their scores from pretest to posttest 1 on the criterion-referenced spelling assessment. They had a minor decrease in scores when they were not receiving the intervention during the second eight weeks. The control group's scores decreased slightly from pretest to posttest 1. After they received the intervention, their scores increased. A visual representation of the mean percentages correct is presented in Figure 2. At Testing Time 2, the experimental mean percentage scores are higher than the control for each element on the measure. At Testing Time 3, however, the control/delayed experimental made gains comparable to the experimental group as evidenced by the parallel lines.

Figure 2. Mean Percentages Correct for Phonological, Morphological, and Orthographic Spelling Words on the Criterion-Referenced Spelling Assessment

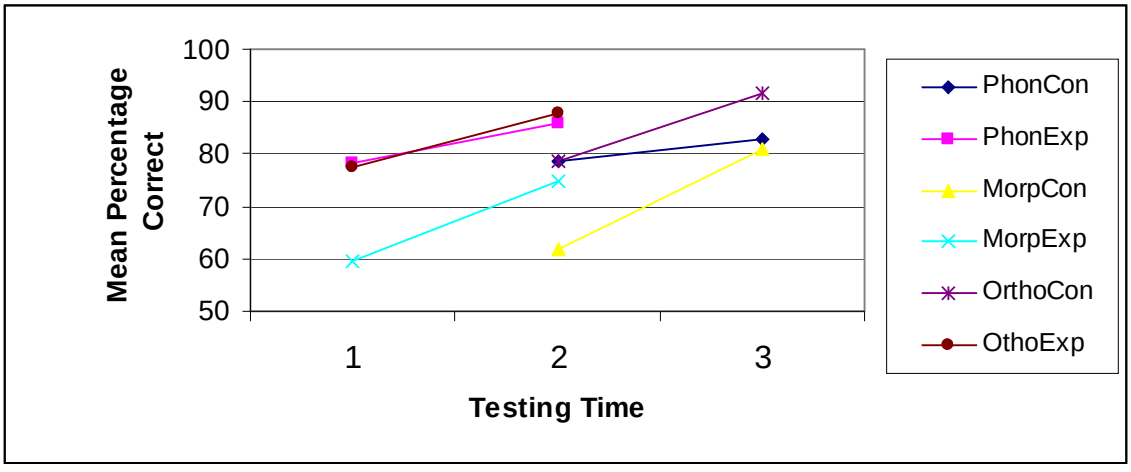


Note. The solid lines between Time 1 and Time 2 represent the experimental group. The dashed lines between Time 1 and Time 2 represent the control group. The solid lines between Time 2 and Time 3 represent the control/delayed experimental group. The dashed lines between time 2 and Time 3 represent the experimental/phase I group.

Due to the study having a built-in replication feature, results of the two groups of students, experimental and control/delayed experimental can be compared once both groups of students had received the intervention. Figure 3 presents the mean percentages correct of phonological, morphological, and orthographic spelling words on the criterion-referenced spelling assessment for the experimental group and the control/delayed experimental group.

The results show that the experimental group between Testing Time 1 and Testing Time 2 outperformed the control group. Once the control group (control/delayed experimental) received the intervention, their scores improve from Testing Time 2 to Testing Time 3.

Figure 3. Mean Percentages Correct for Phonological, Morphological, and Orthographic Spelling Words on the Criterion-Referenced Spelling Assessment for the Experimental Group and the Control/Delayed Experimental Group



Note. The lines from Testing Time 1 to Testing Time 2 represent the experimental group. The lines from Testing Time 2 to Testing Time 3 represent the control/delayed experimental group.

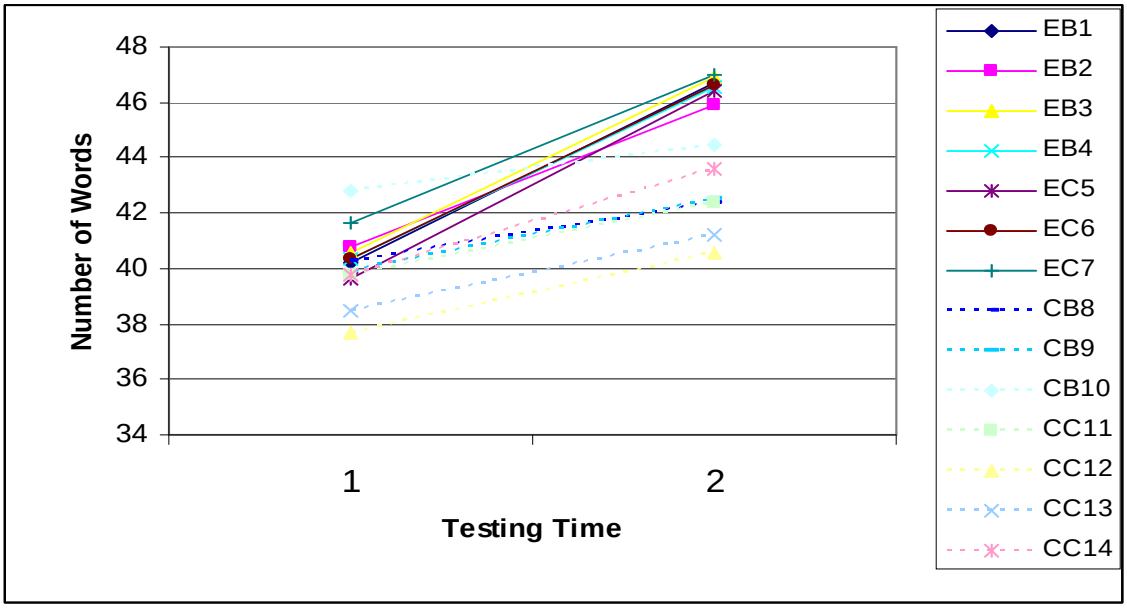
Based upon the phonological words, the experimental and control/delayed experimental group's scores were very similar. The morphological words show that the control/delayed experimental group outperformed the experimental group. The control/delayed experimental group outperformed the experimental group on the words designated as orthographic as well. For both groups of students, Figure 2 and Figure 3 show that students made the greatest gains on morphological words.

Ancillary Analyses

This study has a nested structure because it involved one school district, one school in that district, two teachers at that school, and 14 classrooms at the school. Hierarchial Linear Model (HLM) could have been used to analyze the data. However, due to the small number of classrooms (14) involved in the study, HLM, would not be sufficient. Instead of using HLM, a plot was constructed of the classroom means (see Figures 4 and 5) on both of the testing measures. This allowed the mean scores to become visible at different testing times. The solid lines on the plot represent the classrooms that received the treatment. The dotted lines represent the classrooms that served as the control group. Because both teachers had experimental and control groups of participants during different class section, the letter "B" represents one teacher and letter "C" represents the other teacher. The "E" that precedes the "B" or "C" represents an experimental classroom, and a "C" before a "B" or "C" represents a control classroom. The numbers at the end of the code represent the class sections that were taught by the teachers. The testing times on the x-axis are One, representing a pretest,

Two, representing a posttest, and Three, representing a second posttest (See Figure 5) that was given eight weeks later. The y-axis represents the number of correct words on the various spelling measures.

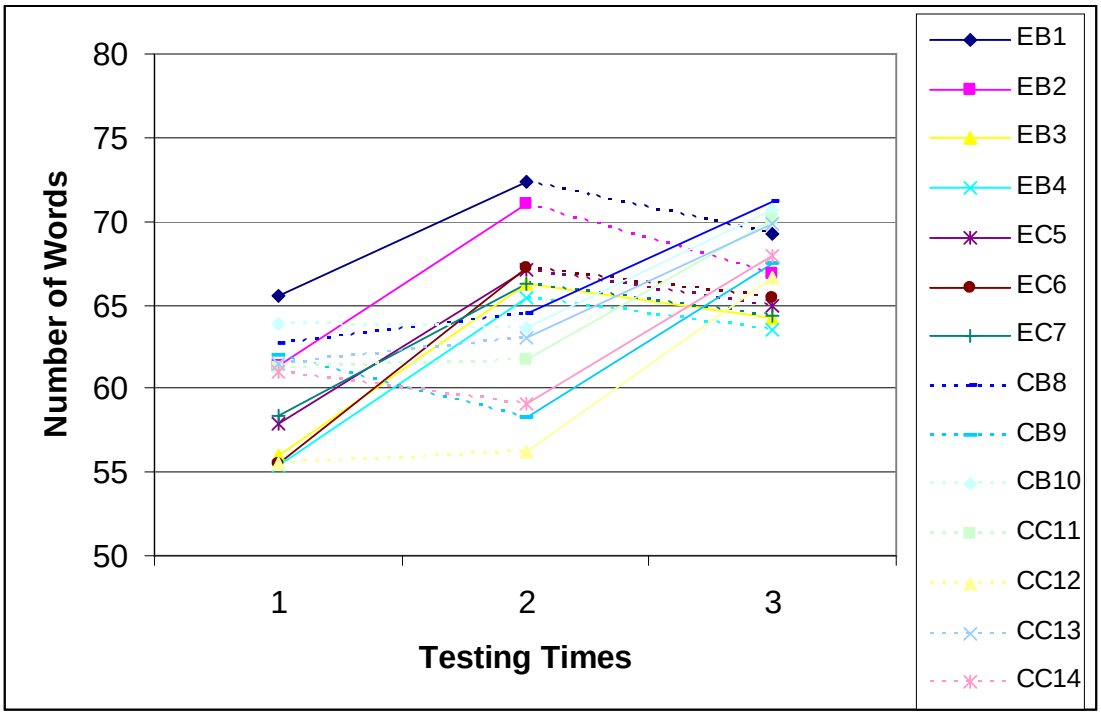
Figure 4. Growth Curves Across Classrooms on the Sentence Writing Task



Note. The solid lines represent the experimental/phase I group and the dashed lines represent the control group.

On the sentence writing task, both groups of students had a slight score increase between testing time 1 and testing time 2.

Figure 5. Growth Curves Across Classrooms on the Criterion-Referenced Spelling Assessment

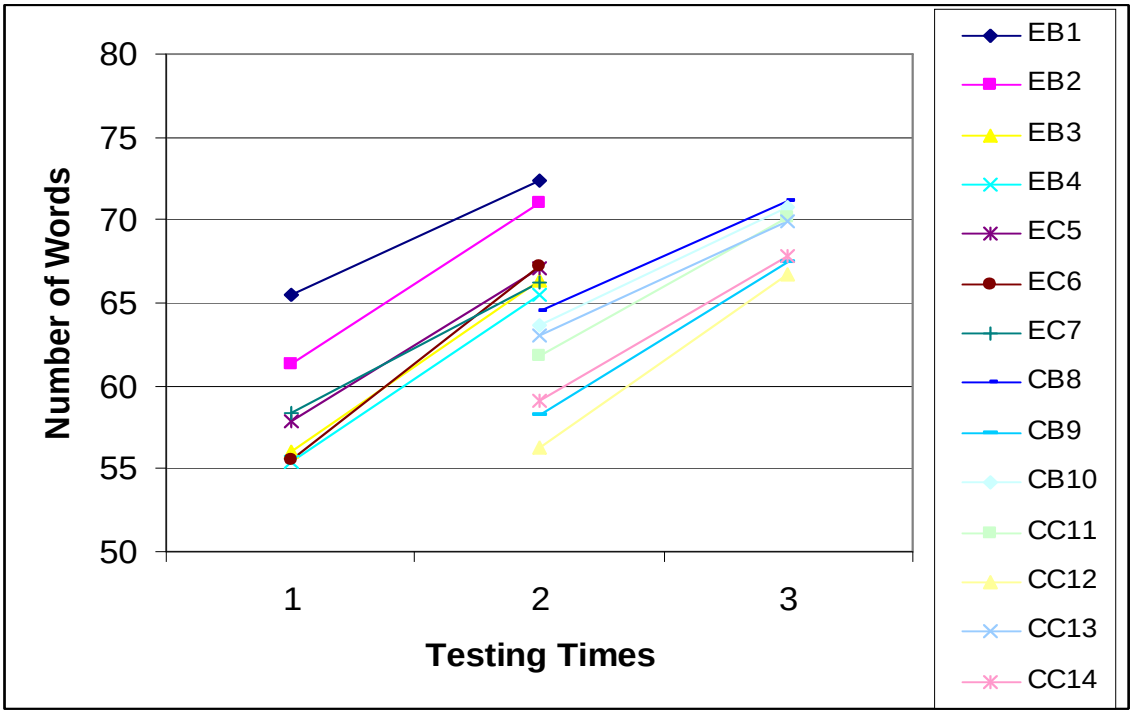


Note. The solid lines between Time 1 and Time 2 represent the experimental group. The dashed lines between Time 1 and Time 2 represent the control group. The solid lines between Time 2 and Time 3 represent the control/delayed experimental group. The dashed lines between time 2 and Time 3 represent the experimental/phase I group.

The class scores for the criterion-referenced spelling assessment varied over time. The experimental classes' scores improved after they received the intervention. The control groups' scores varied; some classes' scores increased slightly from Testing Time 1 to Testing Time 2 while some classes' scores decreased. After Testing Time 2, scores from the experimental/phase I group decreased slightly. After Testing Time 2, the control/delayed classes received the treatment, and their scores' increased at Testing Time 3.

The results show that once the intervention had been given, students in the experimental group and the control/delayed experimental group made gains in their spelling performance. Figure 6 shows the replication of the study using the scores from the experimental group from Testing Time 1 to Testing Time 2 and the control/delayed experimental group from Testing Time 2 to Testing Time 3. Based upon the results, class EB1 and class CB8 are close to having parallel lines, although the study was implemented at different times. Classrooms EB2 and CC11 are close to having parallel lines as well. These curves shows were the similarities and the differences lie among classrooms.

Figure 6. Growth Curves Across Classrooms for the Experimental Group and the Control/Delayed Experimental Group on the Criterion-Referenced Spelling Assessment



Note. The lines from Testing Time 1 to Testing Time 2 represent the experimental group. The lines from Testing Time 2 to Testing Time 3 represent the control/delayed experimental group.

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

The purpose of this study was to investigate whether sixth-grade students who speak AAVE could apply phonological, morphological, and orthographic knowledge to improve their spelling ability. AAVE has its own sound system that differs from the sound system of AE, and this difference my cause students who speak AAVE to produce incorrect spellings according to AE. Little research has been conducted on providing AAVE students with an intervention to improve their spelling performance. Research, however, has shown that to improve spelling performance, students have to have phonological, morphological, and orthographic knowledge and that these linguistic features should be taught explicitly to students. This study sought to provide the linguistic features of AE in a scripted intervention to speakers of AAVE in sixth-grade to improve their spelling performance of AE.

One research question was addressed in this study:

> Does a direct instruction intervention involving the principles of phonology, morphology, and orthography improve spelling achievement in speakers of African American Vernacular English at the sixth-grade level?

For researchers, this study addressed an area of research that is vital to improving the spelling performance of AAVE speaking students. Previous studies have shown that students' spellings may reflect the sound system of their dialect. The results of this study support this generalization. For students who speak AAVE, their spellings reflected the phonological characteristics of this dialect.

The participants in this study consisted of 142 sixth-grade students. The students were divided into either a control group or an experimental group. The control group consisted of 65 students, and the experimental group consisted of 77 students. The students took several assessments to determine if the control group and the experimental group were similar before the intervention began. The DELV Screening test was administered to determine if students spoke AAVE. Students were also administered the WRAT3-Spelling subtest to determine if the two groups had similar spelling capabilities. The DELV and WRAT3-Spelling Subtest were used as pretest measures only. Students were administered a modified version of the sentence writing task created by Charity et al. (2004) as a pretest, posttest 1, posttest 2. In addition, students were administered criterion-referenced spelling assessments that were created by the researcher. The criterion-referenced spelling assessment included 81 words on each test, the pretest, posttest 1, and posttest 2. The spelling words on the criterion-referenced spelling assessment were equally matched for syllables, closely matched for letters, and closely matched for frequency (Zeno et al., 1995).

Students in the experimental group received a spelling intervention in the phonological, morphological, and orthographic knowledge of spelling. The intervention's lessons were scripted and were administered to students by their language arts teachers three times a week for 25 minutes each time. Each lesson depicted how words and phrases sound in AAVE and how these same words and phrases should sound in AE.

The results of the study were analyzed by MANOVA to determine if the intervention produced statistically significant results. MANOVA was used because multivariate statistics that involve two or more dependent variables allowed the researcher to "conduct a single analysis that *simultaneously* considers *all* the variables in the dataset, and all their influences and interactions with each other" (Thompson, 2006, pp. 7 & 8). Each of the scores on the assessments was analyzed for reliability using Cronbach's alpha. As noted earlier, fidelity of implementation was met by observing teachers' and students' behaviors and using these observations to assist teachers and students in strengthening the lessons for the remainder of the intervention.

Conclusions

The results of this study and the research question addressed present several potentially important conclusions. The spelling intervention for students who are speakers of AAVE produced encouraging results that spelling performance can improve for students who are speakers of AAVE once they are made aware of the difference between their phonological system and the AE phonological system. This conclusion is evidenced by the gains made on the sentence writing task and the criterion-referenced spelling assessment once the intervention had been administered to the students.

Sentence Writing Task

Reliability for the scores on all the instruments, except the sentence writing task on its third administration, was above .80, while .70 or higher is recommended for exploratory research. As noted in Chapter IV, the sentence writing task was dropped from further analyses because the third administration of this measurement was shown to

have a low reliability. The scores on the sentence writing task's third administration had a Cronbach's alpha of .4435. The students' scores on the sentence writing posttest 2 for the control group and the experimental group did not have much variance. The control group had a mean score of 46.892 (SD = 1.501), and the experimental group had a mean score of 46.831 (SD = 1.250) on this 48 item assessment. These scores were near perfect. This could be partly due to three reasons:

1. On the third administration of the test, both groups had received this same assessment two times prior. The assessment was exactly the same on all three administrations.
2. This study was set up as a wait-list-control; therefore, both groups of students had received the intervention before the third administration.
3. Due to the assessment being the same, students could have learned the target words in the sentences after the first or second administration.

All three of these reasons could be potential explanations for the low reliability on the third administration of the sentence writing task, thus dropping it from further analyses.

Results can be interpreted, however, using the results of the first two administrations of the sentence writing task. Before the study, a multivariate analysis of variance (MANOVA) showed that there was no statistically significant difference ($p<.001$) between the two groups of students. The results showed that both groups were near similar on the 48 item sentence writing task pretest. The control group received a mean score of 39.908 (SD = 4.655), while the experimental group received a mean score of 40.481 (SD = 3.834). After the second administration, both groups improved. The

experimental group, however, improved the most. Their score improved to 46.597 (SD = 1.757), while the control group improved to 42.492 (SD = 3.804). This suggests that the intervention did have an impact on the spelling performance of the students because the experimental group made greater gains, although the control group made gains on this assessment as well.

The mean scores on the sentence writing task varied slightly from classroom to classroom. On the pretest, Teacher "B" Classroom 10 had the highest score, 43, and Teacher "C" Classroom 12, had the lowest score, 38. From the pretest to posttest 1, the students in the experimental group classrooms made the greatest gains. As noted earlier, the control group made gains as well. The entire experimental group classrooms on posttest 1 increased their scores to nearly the same point and came within one point of each other on this measure. The scores for experimental group were between 46-47 points out of a possible 48 points. Because the control group had not received the treatment, their increased scores varied. The range of their scores was from 38-44 points. The highest score, 44 points, came from Teacher B Classroom 10. This score, however, had the slightest gain with only one point from pretest to posttest 1.

DELV

On the DELV, students were screened to determine if they spoke AAVE. The DELV was an oral measure and was used as a pretest only. An analysis of variance showed that there was no statistically significant difference ($p<.001$) between the control group and the experimental group on the DELV before the study began. It was determined that the control group and the experimental group were similar on the 15

item DELV because the control group had a mean score of 8.015 (SD = 4.226), while the experimental group had a score of 8.053 (SD = 3.642). Although the DELV was an oral measure, it is interesting to note, that a four students received all 15 items correct on this measure. These students, however, made some AAVE-related errors in their spelling on the written AAVE pretests.

WRAT3-Spelling Subtest

On the second pretest only assessment, the scores for the reliability analysis on the WRAT3-Spelling Subtest (Wilkinson, 1993) produced a Cronbach's alpha of .8658. This 55 item assessment was given only as a pretest measure to determine if both groups of students were similar, prior to the study, on a norm-referenced spelling assessment. An analysis of variance showed that there was no statistically significant difference ($p<.001$) between the control group and the experimental group. The control group had a mean score of 37.231 (SD = 6.064) and the experimental group had a mean score of 36.649 (SD = 5.201).

Criterion-Referenced Spelling Assessment

The scores on the criterion-referenced spelling assessments produced high Cronbach alpha's for the three different assessments. Each assessment included 81 words that were based upon phonological and morphological (inflectional endings) that are features of AAVE. The spelling assessments also included derivational spelling lessons and orthographic lessons to assist in spelling conventionally. The scores for the reliability analysis for the criterion-referenced spelling assessment were .9282 for the

pretest and .9106 for posttest 1. On the third administration, the scores on the reliability analysis remained above .70 but decreased slightly from the first two administrations.

MANOVA showed that there was no statistically significant difference ($p<.001$) between the two groups on the criterion-referenced spelling assessment prior to the study. Once the intervention had been implemented, the experimental group outperformed the control group on posttest 1; their mean score, however, slightly decreased on posttest 2. The students retained most of the information eight weeks later because their posttest 2 mean score of 65.429 (SD = 7.085) was more close to the mean score of 67.844 (SD = 6.323) from the posttest 1 than their mean score from the pretest 58.260 (SD = 11.356). On the second administration of the intervention, the control/delayed experimental group had the highest mean score, 69.185 (SD = 8.611) of both groups on all administrations. This groups' mean score of 69.185 (SD = 8.611) is comparable to the first experimental mean group score of 67.844 (SD = 6.323), which shows that the intervention had an impact on the students' mean scores.

The mean scores on the criterion-referenced spelling assessment varied slightly by classrooms for the experimental group. The first two experimental classes of Teacher "B" outperformed her last two experimental classes and all of the experimental classes of Teacher "C" on the pretest. The first two experimental classes for Teacher "B" scored in the low and mid- 60's, while all other experimental classes performed in the 50's. After the implementation, four of the seven classes made about a 10 point gain from pretest to posttest 1. One class made about a 12 point gain, another made about a 7 point gain, and the last made about an 8 point gain. This increase from pretest to posttest 1

slightly decreased from posttest 2. The decreases were very slight with the largest decrease being around four points.

Students' scores slightly dropped from posttest 1 to posttest 2 and the classrooms' mean scores dropped from posttest 1 to posttest 2. As noted, posttest 2 was given eight weeks after the initial implementation of the intervention. Students retained most of the information because there was not a substantial drop in their scores from posttest 1 to posttest 2. The largest drop was about four points from Teacher "B" classroom. Both teachers' classes made gains, and no one teacher's class had a large effect over the other teacher's classroom, which showed that the classrooms were similar. In addition, the results of the assessments after the implementation were similar for both teachers.

Moreover, six of the seven control group classes scored in the 60's on the criterion-referenced spelling assessment, with one class scoring in the mid-50's. Overall, the control group slightly outscored the experimental group classrooms on the pretest. On posttest 1, the control group scored similar to their pretest scores with Teacher "B" Classroom 9 decreasing their score by close to four points. Based upon pretest scores and scores from posttest 2 after the intervention, the control/delayed experimental group made gains but not as high as the gains from the first experimental group. Six of the classrooms made seven to nine point gains, while only Teacher "C" Classroom 12 made a ten point gain. The lines of the growth curves start to parallel once the study had been replicated during the second eight weeks. Classes can be visually compared or contrasted based upon the lines between the two different testing times for both groups of students.

Both teachers implemented the intervention with their students. The criterion-referenced spelling assessment had an effect on individual student scores and classroom scores as a whole. The decreases from the first experimental group scores from pretest to posttest 2 were only minor, and the gains were greater for the first experimental group from pretest to posttest 1 and for all classrooms in the first experimental group. The control group and control/delayed experimental scores increased, as well from pretest to posttest 2. The intervention proved to be a positive factor in increasing the spelling performance of these sixth-grade students on the criterion-referenced spelling assessment.

Phonological, Morphological, and Orthographic Words

To determine which linguistic feature had a larger effect on students' spelling performance, the criterion referenced spelling assessment was analyzed further for each area of importance, phonological, morphological, or orthographic. On the pretests for all three key features, the control group and the experimental group had similar mean percentages correct scores for the phonological and orthographic words. The largest disparity came from the morphological words' mean percentage correct score for the pretest. The control group pretest mean percentage correct score was higher than the experimental group's pretest mean percentage correct score for morphological words. The control group produced a mean percentage correct score of 65.680 (SD = 22.502), while the experimental group produced a mean percentage correct score of 59.391 (SD = 19.165). Although the control group had a higher pretest mean percentage correct score on the morphological words, after receiving the intervention, the experimental group

made gains on the morphological words improving their mean percentage correct score to 74.675 (SD = 13.416). These students retained the information to produce similar mean percentage correct scores on posttest 2.

Moreover, after the control/delayed experimental group received the treatment, they made even greater gains from posttest 1 to posttest 2. Their mean percentage correct score on posttest 2 is comparable to the mean percentage correct score of the first experimental group on posttest 1. After receiving the intervention, the control/delayed experimental group, however, outperformed the experimental group after the first experimental group had received the treatment. One conclusion can be made is that mean percentage correct scores show that the first control group, also known as control/delayed experimental group, was higher on the morphological words from the start, and therefore, the intervention greatly increased their performance on this measure.

Additionally, the morphological words were shown to be the most difficult of the words to spell correctly based upon the mean percentage correct scores. The mean percentage correct scores of the words designated as morphological reflect lower mean percentage correct scores than the phonological and orthographic words on the pretest, posttest 1, and posttest 2, with the exception of the control group mean percentage correct score on the morphological words on posttest 2. Although the groups made gains within morphologically based words, morphologically based words appeared to be harder to spell conventionally for these sixth-grade students.

Both groups were similar on the pretest for words that were designated as phonological and words. After the experimental group received the intervention, their

mean percentage correct score increased, and the experimental group outperformed the control group on posttest 1. Once the control/delayed experimental group received the intervention, their mean percentage correct score for phonological words increased as well. This signifies that the intervention worked for both groups of students on phonological based words.

The same was true for words that were designated as orthographic words. The control group and experimental group began the study with similar mean percentage correct scores for the orthographic words. After the intervention was given, the mean percentage correct scores increased for both groups of students. The control group and the experimental group mean percentage correct scores can be compared because the experimental group made gains from the pretest to posttest 1, while the control groups mean percentage correct score remained stable. After receiving the intervention, however, the control/delayed experimental group made gains as well. These gains by both groups show that the orthographic lessons in the intervention assisted students in improving their spelling.

The control group and the experimental group were similar on all pretest instruments at the beginning of the study. The experimental group, however, outperformed the control group on all posttest 1 assessments. On posttest 2 measures, the control/delayed experimental group made gains on their scores on each assessment, which allowed the two groups to have analogous scores. The scores show that an intervention involving the principles of phonology, morphology, and orthography can influence the spelling performance of AAVE-speaking sixth-grade students.

Recommendations

Sixth-grade speakers of AAVE can be taught to spell the AE form of words. Many of the students, who made AAVE related errors, may not have known the correct sound when trying to spell a word correctly. These sounds have to be explicitly taught to students, and students have to be made aware of the way, in which they are pronouncing sounds in their dialect. As Labov (1995) mentioned, some words for students who are speakers of AAVE may appear to be homophones.

Throughout my observations in the classrooms, students were aware of all of the AAVE features that were communicated in the lessons. Research has shown that AAVE is unique to its speakers; the students, therefore, were made aware that the intervention was not created to make them give up their culture but to provide them with a means to spell successfully in school based on AE. From this study, the main feature that students had the majority of spelling errors were from morphological based words, inflectional endings and derivational. The syllable counting and phoneme counting tasks in the intervention assisted students in listening for individual phonemes in each word. The orthographic words and derivational morphology was incorporated to assist students when words did not follow the grapheme-to-phoneme correspondence.

There is little to no research on an intervention that can assist students who are speakers of AAVE to spell conventionally, despite the many research studies that have shown that accurate spellers are generally good readers. African American students were outscored on the reading section of the NAEP by all other subgroups. Although some subgroups, such as Asian/Pacific Island or Hispanic, may have students who initially

speak English as a second language, they still outperformed African American students who speak English. Although English is the first language of the majority of African Americans, it is alarming that their scores are lower than all other subgroups. A great need exists to provide linguistic training in AE for students who are speakers of AAVE.

In order to provide students with explicit instruction on the differences in AAVE and AE phonological and morphological features, teachers, themselves, must be trained. Many teachers may not fully understand which features a speaker of AAVE knows and does not know because AAVE is not as precise as an ELL student who is learning a new language entirely. Providing speakers of AAVE with instruction in phonological and morphological features of AAVE and derivational morphology and orthographic knowledge will enable students to receive academic success in spelling.

Further studies, however, are needed on ways to incorporate an intervention that can assist students in spelling conventionally. These studies should be incorporated at various grade levels because the results indicated that at the sixth-grade level, phonological and orthographic errors are much less frequent than morphological errors. Sixth-grade students may have mastered the spelling of phonological and orthographic words. Future studies, however, should focus more on morphological-based words, inflectional endings and derivational morphology.

Students received instruction for eight weeks and a longer length of instruction and more practice could be more robust for students. A longitudinal follow-up, therefore, is recommended. Other studies should be conducted to determine the benefit of a spelling intervention and its relationship to reading for speakers of AAVE.

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APPENDIX A

Spelling Words
(The number beside the word represents the sentence number on each test.)

	PRETEST		POSTTEST 1		POSTTEST 2	
Reduction of final consonant clusters						
1.	past	5	fast	4	last	5
2.	rust	15	dust	15	must	15
3.	insist	44	persist	47	consist	46
4.	lift	9	rift	9	drift	9
5.	behind	36	remind	39	unwind	37
6.	hold	6	mold	6	bold	6
7.	felt	3	belt	2	melt	3
8.	resident	65	president	65	occupant	65
9.	resent	27	repent	37	relent	62
Dropping or omitting the final consonant						
10.	boot	14	root	13	loot	14
11.	road	7	toad	7	load	7
12.	bookkeeper	77	bricklayer	78	carpenter	78
13.	something	69	nothing	69	anything	69
14.	faking	49	making	52	taking	51
15.	manner	39	banner	42	tanner	41
16.	hanger	47	danger	50	anger	49
17.	submit	81	admit	81	summit	52
18.	accommodator	80	accelerator	80	accumulator	81
Dropping of stops or labiodental fricatives						
19.	bath	11	path	11	math	11
20.	wealth	40	stealth	43	health	42
21.	myself	37	himself	40	herself	39
22.	yourselves	76	ourselves	76	themselves	77
23.	straight	63	stray	63	strength	63
24.	structure	70	strangle	70	stringent	71
25.	mother	35	brother	38	father	34
26.	this	1	that	1	them	1
27.	there	21	those	21	these	21

Inflectional morphology "-ed"

28.	slipped	53	flipped	56	ripped	56
29.	bounced	59	pounced	59	flounced	59
30.	parked	43	barked	46	marked	45
31.	invented	62	cemented	62	resented	62
32.	dignified	74	signified	74	fortified	75
33.	pumped	42	bumped	45	jumped	44
34.	increased	71	decreased	71	deceased	73
35.	infested	67	detested	67	invested	67
36.	gifted	45	sifted	48	lifted	47

Inflectional morphology "-s"

37.	socks	32	rocks	30	locks	31
38.	pests	33	tests	31	nests	32
39.	tasks	31	masks	29	basks	30
40.	companies	72	factories	72	balconies	73
41.	waves	23	caves	23	saves	25
42	fountains	73	bargains	73	mountains	74
43.	boxes	30	foxes	28	gases	29
44.	hutches	61	lunches	61	munches	61
45.	matches	58	batches	58	catches	58

Derivational morphology

46.	typical	52	natural	55	mineral	55
47.	composition	79	competition	79	admiration	80
48.	legality	68	mobility	68	morality	68
49.	abrupt	46	disrupt	49	interrupt	48
50.	manuscript	75	postscript	75	subscript	76
51.	monarch	60	patriarch	60	matriarch	60
52.	expire	48	inspire	51	aspire	50
53.	tangible	66	legible	66	credible	66

Orthographic rules "c, k, ck, ke"

54.	academic	64	epidemic	64	economic	64
55.	music	25	public	25	picnic	35
56.	sank	12	bank	12	rank	12
57.	book	4	week	3	seek	4
58.	black	22	slack	22	snack	24
59.	tuck	18	duck	18	buck	18
60.	hike	16	like	16	pike	16
61.	make	2	cake	5	bake	2

Orthographic rules “Soft “c” and Hard “c”, Soft “g” and Hard “g’

62.	ceiling	54	cement	57	center	57
63.	circle	38	city	41	cycle	40
64.	caterpillar	78	capillary	77	categories	79
65.	compare	51	compass	54	compact	54
66.	garbage	57	garage	36	galore	38
67.	greatly	50	grateful	53	graceful	53
68.	gentle	41	gender	44	genius	43
69.	apology	56	energy	35	gymnastic	76

FLOSS Rule

70.	hill	8	bill	8	mill	8
71.	buzz	19	fuzz	19	fizz	19
72.	buff	20	puff	20	cuff	20
73.	cross	24	gloss	24	floss	26

Diphthongs

74.	bound	29	found	27	pound	28
75.	coward	55	tower	33	power	22
76.	coil	13	boil	13	foil	13
77.	oyster	28	royal	32	loyal	23

Final “v”

78.	hive	17	dive	17	five	17

“-tch” for /ch/

79.	batch	34	patch	34	match	33

Words ending in “g”

80.	cage	10	page	10	rage	10
81.	judge	26	fudge	26	nudge	27

APPENDIX B

Pretest

Spelling Assessment
Teacher: I would like for you to write some words from dictation and do the best you can. First, I will say the word, and then I will use the word in a sentence and say the word again. You are required to write only the word and not the sentence. For example, I will say, 'door', please close the door, door. You should write door. Any questions? There are 81 words on the list."

1. this This is my shirt. this
2. make Please make me a sandwich. make
3. felt Kelly felt sick at school today. felt
4. book The student dropped the book on the floor. book
5. past Yesterday is the past. past
6. hold You should hold on to the handlebars when riding a bike. hold
7. road The road is slippery when wet. road
8. hill Josh rode his bike up the hill. hill
9. lift The man will have to lift the heavy desk. lift
10. cage The monkey escaped from the cage. cage
11. bath It is time to take a bath. bath
12. sank The ship sank in the Atlantic Ocean. sank
13. coil The snake is in a coil. coil
14. boot The soldier lost a boot. boot
15. rust The bicycle had rust on it. rust
16. hike James and his brother went for a hike in the woods. hike
17. hive Bees live in a hive. hive
18. tuck We have to tuck in our shirts at school. tuck
19. buzz Bees will buzz by fresh flowers. buzz
20. buff The man will buff his car after the wax is on. buff
21. there There is a baby in the crib. there
22. black The cat is black. black
23. waves Henry waves goodbye to Samantha everyday. waves
24. cross The cross is made of 14k gold. cross
25. music Patrick loves listening to music. music
26. judge The judge presided over the case. judge
27. resent Mike will resent his decision to get a tattoo. resent
28. oyster James dropped the oyster on the floor. oyster
29. bound The bus was bound for Texas. bound
30. boxes The boxes are in the corner. boxes
31. tasks The boy had a lot of tasks to do before going to bed. tasks
32. socks Carl didn't have on socks with his shoes. socks

33. pests Ants can be pests. pests
34. batch Deon made a batch of cookies. batch
35. mother Mother made German chocolate cake for Thanksgiving. mother
36. behind Sherry is hiding behind the tree. behind
37. myself I cleaned the whole house myself. myself
38. circle The kids all sat in a circle. circle
39. manner The little boy behaved in a good manner. manner
40. wealth Tommy's dad had great wealth. wealth
41. gentle Mario put the clothes on gentle cycle. gentle
42. pumped Tameka pumped gas into her car. pumped
43. parked Sheila parked her car in the garage. parked
44. insist The nurses insist on working 12 hours. insist
45. gifted The boy is gifted in music. gifted
46. abrupt Jerry was very abrupt with the students. abrupt
47. hanger The man put his coat on a hanger. hanger
48. expire The milk will expire in five days. expire
49. faking Harry is faking his sickness. faking
50. greatly I greatly appreciated the gifts I got for my birthday. greatly
51. compare I tried to compare apples to oranges. compare
52. typical Saturday is a typical day of watching cartoons at my house. typical
53. slipped The glass slipped from my hands and broke. slipped
54. ceiling The ceiling is leaking. ceiling
55. coward The boy was a coward for fighting the younger student. coward
56. apology The student offered an apology to the teacher. apology
57. garbage Bobby took out the garbage. garbage
58. matches The matches will start a fire. matches
59. bounced Henry bounced the ball. bounced
60. monarch The Canadians are governed by a monarch. monarch
61. hutches The hutches in my grandmother's house are antique. hutches
62. invented I invented a gadget. invented.
63. straight Her hair is very straight. straight
64. academic The gifted boy achieved academic excellence. academic
65. resident Pedro became a resident of Arizona. resident
66. tangible Denise had to have a tangible item to believe it was real. tangible
67. infested The house was infested with ants. infested
68. legality The legality of voting is that you have to be registered. legality
69. something I found something in my shoe. something
70. structure The structure was made of marble. structure
71. increased The manger increased everybody's pay rate. increased
72. companies The companies are in the process of merging together. companies
73. fountains The fountains are made for making wishes. fountains
74. dignified Maria's mom was a dignified woman. dignified
75. manuscript The manuscript was full of errors. manuscript
76. yourselves You are fooling yourselves if you think this easy. yourselves

77. bookkeeper. The bookkeeper works for an accountant. bookkeeper
78. caterpillar The caterpillar was black and yellow. caterpillar
79. composition Doug wrote a composition. composition
80. accommodator The bodyguard is an accommodator to the rap star. accommodator
81. submit We had to submit our photo to receive a passport. submit

APPENDIX C

Posttest 1

Spelling Assessment
Teacher: I would like for you to write some words from dictation and do the best you can. First, I will say the word, and then I will use the word in a sentence and say the word again. You are required to write only the word and not the sentence. For example, I will say, 'door', please close the door, door. You should write door. Any questions? There are 81 words on the list."

1. that — That is a nice lady. that
2. belt — Sherri wore a belt with her brand new jeans. belt
3. week — There are seven days in a week. week
4. fast — The week went by very fast. fast
5. cake — The cake was delicious. cake
6. mold — The bread had mold in it. mold
7. toad — Kevin had a toad for a pet. toad
8. bill — Sheila had forgot to pay her Discover card bill. bill
9. rift — There is a rift in the stairs. rift
10. page — Keith ripped the page out of the book. page
11. path — Heath took the wrong path to go home. path
12. bank — I have money in the bank. bank
13. boil — Keke had to boil eggs for the salad. boil
14. root — The hurricane pulled the tree up by the root. root
15. dust — Kameca was allergic to dust. dust
16. like — The girls like to dance. like
17. dive — Jerome can dive in the deep end of the pool. dive
18. duck — The Johnson's had duck for Thanksgiving. duck
19. fuzz — Kandy brushed a lot of fuzz from her sweater. fuzz
20. puff — The man blew a puff of smoke in the woman's face. puff
21. those — Those shoes were so expensive, but I had to get them. those
22. slack — The shoe laces were slack. slack
23. caves — Bats and bears live in the caves. caves
24. gloss — Tamara had gloss on her lips. gloss
25. public — The group was singing in public trying to make money. public
26. fudge — My mom always makes fudge for Christmas. fudge
27. found — I found a $100 on the ground. found
28. foxes — The foxes were brown. foxes
29. masks — They all had on masks for Halloween. masks
30. rocks — Courtney threw rocks in the pond. rocks
31. tests — In college, you have tests all the time. tests
32. royal — Royal is my favored color of blue. royal

33. tower The tower is very tall. tower
34. patch We had to wear a patch on our uniforms at work. patch
35. energy We should learn to preserve energy. energy
36. garage Someone left the garage door open. garage
37. repent When you repent, you ask for forgiveness. repent
38. brother Jose has only one brother. brother
39. remind His teacher had to remind him to finish his science project. remind
40. himself Michael cut himself with the knife. himself
41. city The boy was lost in the big city of New York. city
42. banner Rosa was surprised when she saw the birthday banner. banner
43. stealth The Air Force has a jet that is a stealth. stealth
44. gender Female is a type of gender. gender
45. bumped The taxi bumped into the truck. bumped
46. barked Rocky barked at the other dog. barked
47. persist Carl and Joe persist on making their mom buy them a PS3. persist
48. sifted Karen sifted flour for her buttermilk biscuits. sifted
49. disrupt The helicopters can disrupt the wedding ceremony. disrupt
50. danger Robert put the kids in danger of falling of the cliff. danger
51. inspire Good poetry can inspire other people to write. inspire
52. making Janet is making all the pies for Christmas. making
53. grateful I'm grateful to be alive today. grateful
54. compass Julio used the compass to find his way home. compass
55. natural The pizza was made with all natural ingredients. natural
56. flipped The girl flipped over the skates. flipped
57. cement The construction worker used a lot of cement to build the pool. cement
58. batches The Girl Scouts made several batches of brownies for the sale. batches
59. pounced The lion pounced the rabbit. pounced
60. patriarch King of England is a patriarch. patriarch
61. lunches The children had sack lunches on the field trip. lunches
62. cemented The contractor cemented the back deck. cemented
63. stray The dog was a stray. stray
64. epidemic The AIDS virus is a big epidemic. epidemic
65. president George Bush is the President of The United States. president
66. legible The teacher asked the students if her writing was legible. legible
67. detested Keisha detested the way her kids acted. detested
68. mobility Because of her broken leg, Karen's mobility was limited. mobility
69. nothing Nothing in life is free. nothing
70. strangle The baby will strangle on popcorn. strangle
71. decreased The store decreased its prices for the holiday sale. decreased
72. factories The city has several factories. factories
73. bargains There will be a lot of bargains for the holidays. bargains
74. signified Wilena's signature signified that the contract was legal. signified
75.postscript P.S. stands for postscript. postscript
76. ourselves We cleaned the house ourselves. ourselves

77. capillary A capillary acts as a tube that allows blood to flow. capillary
78 bricklayer The bricklayer used 15, 000 bricks to build the mansion. bricklayer
79. competition The football game is great competition for the players. competition
80. accelerator An accelerator is apart of the engine in a car. accelerator.
81. admit The teacher had to admit the student into class. admit

APPENDIX D

Posttest 2

Spelling Assessment
Teacher: I would like for you to write some words from dictation and do the best you can. First, I will say the word, and then I will use the word in a sentence and say the word again. You are required to write only the word and not the sentence. For example, I will say, 'door', please close the door, door. You should write door. Any questions? There are 81 words on the list."

1. them Their mom took them to the zoo. them
2. bake My mom can bake a pound cake. bake
3. melt The butter will melt if you don't place it in the refrigerator. melt
4. seek Seek and you shall find the truth. seek
5. last The driver came in last in the race. last
6. bold The man was bold enough to kill the bear. bold
7. load The man had a load of trash on his truck. load
8. mill Papa took the corn to the mill for grinding. mill
9. drift The old man felt a drift of cold air come through the window. drift
10. rage The tiger's rage was fierce. rage
11. math Math can be a very challenging subject. math
12. rank The basketball team might rank in the top 10 this year. rank.
13. foil Neal used foil to cover the chicken. foil
14. loot The cops used the money as loot to lure the crooks. loot
15. must You must use the milk by the expiration date, or it will spoil. must
16. pike The diver won the competition by doing a pike. pike
17. five You have five fingers on one hand. five
18. buck A male deer is considered a buck. buck
19. fizz The soda had a lot of fizz. fizz
20. cuff Teenagers today like to cuff one leg of their pants. cuff
21. these These red apples are good. these
22. power The neighborhood lost its electrical power after the storm. power
23. loyal She is loyal to her teammates. loyal
24. snack The kindergarteners have a snack everyday at 3:00pm. snack
25. saves Courtney saves her money and spends her mothers. saves
26. floss You should floss your teeth daily. floss
27. nudge Rita's mom had to nudge her in church to keep her from sleeping. nudge
28. pound She used a pound of butter to make the cake. pound
29. gases Oxygen and carbon dioxide are types of gases. gases
30. basks The baby basks in the sun. basks
31. locks All the doors had locks on them. locks
32. nests The birds made nests inside the houses. nests

33. match Red and white make a perfect match of colors. match
34. father Ken's father made him take the trash out everyday. father
35. picnic We had a picnic in the park. picnic
36. unwind A baby will unwind a whole ball of yarn. unwind
37. galore She bought a galore of new clothes. galore
38. relent Janet always gets her mother to relent when she wants new shoes. relent
39. herself Heather made herself pancakes and eggs for breakfast. herself.
40. cycle A caterpillar has a life cycle before turning into a butterfly. cycle
41. tanner Susie is tanner than Carry. tanner
42. health Keith's health was in great condition. health
43. genius The man is a genius because he is so smart. genius
44. jumped The little boy jumped from the table and broke his arm. jumped
45. marked Caden marked all over the wall with a crayon. marked
46. consist The pies consist of lemons and vanilla flavor. consist
47. lifted The wrestler lifted a man up in the air. lifted
48. interrupt The children always interrupt class. interrupt
49. anger Willie had so much anger built up inside him. anger
50. aspire Tina and Ella aspire to be actors. aspire
51. taking She is always taking the last cookie. taking
52. summit We reached the summit of the mountain. summit
53. graceful The baby had a very graceful smile. graceful
54. compact Linda carries a compact in her purse. compact
55. mineral Potassium is a mineral found in bananas and oranges. mineral
56. ripped Paul ripped John's shirt to shreds. ripped
57. center Frances put a strawberry in the center of the cake. center
58. catches The defensive back catches the running back. catches
59. flounced Shelia flounced around so everyone could see her dress. flounced
60. matriarch Queen Elizabeth is a matriarch of England. matriarch
61. munches The rabbit munches on carrots. munches
62. resented Henry resented Rob for taking his money. resented
63. strength Bobby had the strength of two men. strength
64. economic Buying a hybrid car has great economic value. economic
65. occupant Alex is an occupant of that apartment. occupant
66. credible The witness statements were credible. credible
67. invested Phil invested all his money in the stock market. invested
68. morality Teachers have to uphold morality. morality
69. anything You can have anything you want if you work hard for it. anything
70. gymnastic The three friends signed up to take a gymnastic class. gymnastic
71. stringent The laws are very stringent. stringent
72. deceased All the deceased bodies were cremated. deceased
73. balconies The balconies were all decorated with holiday decorations. balconies
74. mountains The mountains were covered in snow. mountains
75. fortified The corn flakes had fortified vitamins in them. fortified
76. subscript The formula for water has 2 as a subscript. subscript.

77. themselves The children baked the cake themselves. themselves
78. carpenter The carpenter built his daughter a playhouse. carpenter
79. categories We had to choose various categories of animals to research. categories
80. admiration Kevin had great admiration for Sherry. admiration
81. accumulator Rod is an accumulator of antique cars. accumulator

APPENDIX E

Sentence Writing Task

1 2 3
1. **Th**e girl behi**nd** him is call**ed** Lisa.

4 5 6 7
2. She **is** Joe**'s** be**st** frie**nd**.

8 9 10
3. Joe ride**s** his bike down the **str**eet really fa**st**.

11 12
4. Lisa run**s** to keep up wi**th** Joe.

13 14
5. Bo**th** the kid**s** are hungry now.

15 16 17
6. **Th**ey are going to make themsel**v**es a snack.

18 19 20 21
7. Fir**st**, they mu**st** wash their ha**nds** in the ba**th**room.

22 23
8. In the kitchen, Lisa spread**s** butter on two slice**s** of bread.

24
9. Joe pour**s** himself some milk.

25 26
10. He pour**ed** ano**th**er glass for Lisa.

27
11. Then Joe ask**ed**, "Isn't there any jelly?"

28 29
12. Lisa answer**ed**, "We don't have **an**y jelly."

30 31
13. "But let**'s** have some raisin**s** instead."

32 33
14. Lisa drew a flower on her peanu**t** bu**tt**er.

34 35
15. Joe decid**ed** to make **an** elephant.

36 37 38
16. The elepha**nt** had an open mou**th** and **str**ong legs.

39 40 41
17. Joe think**s** that the snack**s are** now ready to eat.

42
18. Lisa ate it a lon**g** time ago.

43
19. Joe is usually walkin**g**.

44 45 46 47 48
20. Joe**'s** fa**th**er **has been** marri**ed** for a long time.

APPENDIX F

INTERVENTION OBSERVATION FORM

DATE:_____ **TEACHER:**_____

START TIME:_____ **STOP TIME:**_____

CONCEPT OR TOPIC BEING TAUGHT:_____

INTERVENTION (Check box for all that apply)

Teacher

- ☐ **Explained purpose of the lesson (background)**
- ☐ **Modeled examples from the lesson**
- ☐ **Provided guided practice**
- ☐ **Provided independent practice**
- ☐ **Provided feedback to the students**
- ☐ **Allowed students to respond**
- ☐ **Students were allowed to ask questions for clarification**
- ☐ **Followed script of the lesson**

Students

- ☐ **Students participated in the lesson**
- ☐ **All students were on task**
- ☐ **Students asked questions when needed**
- ☐ **Students worked independently on Independent Practice**
- ☐ **Students made corrections when teacher offered corrective feedback**

Notes

APPENDIX G

Lesson 1

Background: This lesson will focus on the /d/ sound in the final position. Many times, students omit this sound when speaking and spelling. The goal for the students to be able to hear and recognize the /d/ in the final position. Next, Part II will focus on the three sounds that the past tense suffix "-ed" make. Last, the FLOSS rule will be introduced to students.

Part I

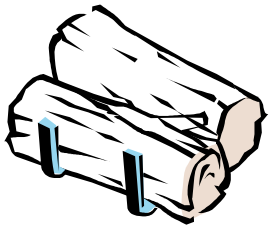
Teacher: Turn to Lesson 1 in your packet. [Check to see if students are on the correct lesson.]
Teacher: Look at the first picture on the page. What picture is that? [If needed, give hint that it starts with an "r"]

Teacher: This is a picture of a *road*. Everybody say *road*. Now, say *road* real slowly and pronounce each sound? How many sounds are in the word *road*? [Pause]
Teacher: If you said three, that is correct. Three sounds are in *road*: /r/ /oa/ /d/.
Sometimes, people pronounce this word and they leave the /d/ sound off at the end of the word. When this happens, it makes the word sound like *row*. Therefore, a sentence with *road* in it will sound like this: *The car went up the row* ***instead of*** *The car went up the road.*
Teacher: We are going to go over some pictures and words, and I want you to pay attention to the sounds in the words, especially the last sound. Make sure you pronounce the last sound. Ready?
Teacher: Look at picture #2, what picture is that?

Teacher: Yes, *cloud* is correct. Everybody say *cloud.* Now, say *cloud* real slowly and pronounce each sound? How many sounds are in *cloud*? [Pause]
Teacher: If you said three, that is correct. There are three sounds in cloud: /cl/ /ou/ /d/. Sometimes when people say this word, they don't pronounce the /d/ at the end of it sounds like *clow*. Therefore, a sentence with *cloud* in it will sound like this:
The rain is coming from the clow **instead of** *The rain is coming from the cloud.*
Teacher: When students do not pronounce the final /d/ on words like *road* and *cloud*, sometimes, they forget to add those sounds when spelling words. You have three more pictures on Part 1 on your page.

Look at the pictures; see if you can determine what the pictures are. Beside each picture, write the word. Say the word really slow, and in parenthesis write the number of sounds that you hear in each word. [Give students time to finish.]

Picture 1
bed (3)
/b/ /e/ /d/



Picture 2
wood (3)
/w/ /oo/ /d/

Picture 3
head (3)
/h/ /ea/ /d/

Teacher: [Go over responses and correct spellings with students. Make sure that they have the correct number of sounds in each word. Reinforce students who may have gotten the incorrect responses.]

Part II

Teacher: Now, we are going to go over past tense "-ed". Sometimes, when people speak they leave off the "-ed" sound in words. The suffix "ed" is used to talk or write about something that happened in the past. The suffix "-ed" can make three different sounds: /d/, /t/, /əd/. When "-ed" is added to a word, it can sound like /d/ in the word *smiled*. The suffix "ed" can sound like /t/ in *pushed*. Also, the suffix "-ed" can sound like /əd/ in the *painted*. Now, look at the words in the example on Part II, let's decide if the words with "-ed" make the /d/, /t/, or /əd/ sound.

Example 1: picked

Teacher: What sound does the "-ed" make in *picked*? [Pause for response.]

Teacher: If you answered /t/, you are correct. How many syllables are in the word *picked*? [Pause] Yes, *picked* has one syllable. Say *picked* slowly and pronounce each sound. How many sounds are in *picked*? [Pause] There are four sounds in *picked*. They are: /p/ /i/ /ck/ /ed/.

Teacher: Let's try *Example 2*. *played.* What sound does the "-ed" make in *played*? [Pause for response.]

Teacher: If you answered /d/, you are correct. How many syllables are in the word *played?* [Pause] Yes, *played* has one syllable. Say *played* slowly and pronounce each sound. How many sounds are in *played*? [Pause] There are four sounds in *played*: /p/ /l/ /ay/ /ed/.

Teacher: Let's look at Example 3: *painted*. What sound does the "-ed' make in *painted*? [Pause for response].

Teacher: If you answered /əd/, you are correct. How many syllables are in the word *painted*? [Pause] Yes, *painted* has two syllables. Say *painted* slowly. How many sounds are in *painted*? [Pause] There are five sounds in *painted*: /p/ /ai/ /n/ /t/ /e/ /d/.

Teacher: Look at the six words under "Own Your Own". Place the words in the correct column: /t/, /d/, or /əd/. Next, write the number of syllables on the line. Last, say the word slowly, and write the number of sounds in the word. [Give students a few minutes to complete the practice]

/t/	No. of Syllable(s)	No. of Sounds
looked	**1**	**(4): /l/ /oo/ /k/ /t/**
worked	**1**	**(4): /w/ /or/ /k/ /t/**

/d/	No. of Syllable(s)	No. of Sounds
cleaned	**1**	**(5) /c/ /l/ /ea/ /n/ /d/**
rained	**1**	**(4) /r/ /ai/ /n/ /d/**

/əd/	No. of Syllable(s)	No. of Sounds
wanted	**2**	**(6) /w/ /a/ /n/ t/ /e/ /d/**
heated	**2**	**(5) /h/ /ea/ /t/ /e/ /d/**

Teacher: Let's check our work. [Go over responses with students; provide appropriate answers for any missed answers]

Part III:

Teacher: In this section, we are going to go over a spelling rule. The spelling rule in this lesson is *FLSZ (FLOSS)* rule. The FLOSS rule states that if a one syllable word with a short vowel ends in "*f, l, s*, or *z*", you double the final letter on the word. Read the word in Example 1 to students:

Example 1: tell

Teacher: How many syllables are in *tell*? [Pause] Yes, *tell* has one syllable. Is the vowel in *tell* short or long? [Pause] Yes, *tell* has a short vowel. So, does *tell* fall under the *FLOSS* rule? [Pause] Ask a student to tell why *tell* falls under the *FLOSS* rule.

Teacher: Now, I am going to read some words to you, and I want you to write the words down. When you finish, I want you to tell me if the word belongs under the *FLOSS* rule. Ready?

[Call on individual students to tell you why the word is or is not a *FLOSS* rule.]

1. *staff (Yes)* *2. boss (Yes)* *3. dog (No)* *4. roll (Yes)* *5. crisis (No)* *6. miss (Yes)*

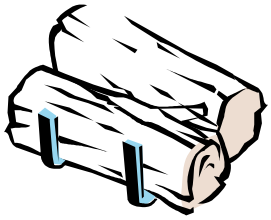
Lesson 1

Part I

1. _____

2. _____

3. _____



4._____

5. _____

Part II
Put the word in the correct column for the ending sound. Does the past tense "-ed" make the /t/, /d/, or /əd/ sound? Next, write the number of syllables in each word. Last, write the number of individual sounds that you hear in each word.

1. rained 2. wanted 3. heated 4. looked 5. worked 6. cleaned

/t/	No. of Syllable(s)	No. of Sounds

/d/	No. of Syllable(s)	No. of Sounds

/əd/	No. of Syllable(s)	No. of Sounds

Part III
FLOSS Rule

1._____ (Yes/ No) 2. _____ (Yes/ No)

3. _____(Yes/ No) 4. _____ (Yes/ No)

5._____(Yes/ No) 6. _____(Yes/No)

What is the *FLOSS* Rule?

Lesson 8

Background: This lesson focuses on the fricative /th/ and how it is often confused with other sounds. The lesson will review the inflectional –s. In addition, this lesson will discuss diphthongs.

Part I

Teacher: Today's lesson will focus on the *th* sound that it sometimes confused by speakers when they pronounce a word like *bathroom*. They may say, "*Bafroom*." In addition, dialect speakers may pronounce *smooth* as *smoov*. The *th* sound sometimes appear to make an /f/ sound like in *bafroom* for *bathroom* or a /v/ sound like in *smoov* for *smooth.* In addition, the /th/ sound is often pronounced as a /d/ sound like in *dus* for *thus*.

Teacher: Let's look at a made-up word that is pronounced as *toof.* What do you think this word is? [Pause for student responses.]

Teacher: The word is supposed to be *tooth.* Have you ever heard anybody say *toof* for *tooth?*

Teacher: Now, let's pronounce these words together. Be sure to pay attention to the ending sound of each word. Pronounce it really loud so that I can hear the *th* sound.

1. cloth 2. broth 3. south 4. death 5. others

[Provide corrective feedback to students.]

Teacher: Now, you have some sentences with misspelled words. Circle the misspelled word or words, and write the words correctly on the line.

1. My brother lives on the *norf* side of town. North
2. My *mouf* is hurting because of a *toofache*. Mouth, Toothache
3. I took a deep *breaf* before shooting the basketball. Breath
4. James knows how to *breave* underwater. Breathe
5. I went to the movies, and *den* I went home. Then

[Provide corrective feedback for students. Explain to students that pronunciations such as these can cause them to make spelling errors when writing.]

Part II

Teacher: In this section, you will have to circle the correct word to make the subject and verb agree.

Example : . Tony (run / *runs*) fast.

Remember, the subject is who or what the sentence is about. A verb tells what the subject does, will do, or did. When the subject is singular, which means that the subject is about one thing, the verb has to also be singular. Singular verbs appear to be the opposite of nouns. That is, nouns that are singular, generally do not end in *s*. Verbs, however, are singular when they end in *s*. For example, *The boy walks to the store*. In this sentence, *boy* is singular and *lives* are singular. This means that the subject and the verb agree. If you have a plural subject such as Jack and Jill then the verb has to be plural. It usually does not end in an *s*. For example, *Jack and Jill walk to the store*. Another example is *The girls play tennis*.

Independent Practice

1. The ladies (*ride* / rides) their bike in the race.
2. The schools (*close* / closes) on President's Day.
3. Johnson High School (make / *makes*) students feel welcomed.
4. Marlon and Melissa (*hurry* / hurries) to their seats.
5. Blythe (dress / *dresses*) neatly.

6. Jennifer (buy / *buys*) expensive clothes.
7. David (love / *loves*) football.
8. Aaron and Tina (*play*/ plays) the guitar.
9. Horses, cows, and chickens (*find* / finds) food on the farm.

[Call on individual students to read their responses. Provide corrective feedback to students.

Part III

Teacher: We are going to discuss spelling rules that involve the /oi/ sound. When is /oi/ spelled *oi*, and when is it spelled *oy*? Look at the words in Column A and Column B:

Column A	Column B
oil	joy
join	employ
spoil	loyal

Teacher: What can you conclude about the use of *oi* for the /oi/ sound and *oy* for the /oi/ sound? [Guide students in looking at the position of the /oi/ sound in both columns.]
[Ask students if they have any ideas on when to use these two spellings for the /oi/ sound.]
Teacher: You spell words with *oi* for the /oi/ sound if the sound is at the beginning of a word or in the middle of a word, such as in *oil, join,* and *spoil*. [Have students to write this rule in the packets.]
Teacher: You use *oy* for the /oi/ sound if the sound is at the end of a syllable or the end of a word like *enjoy, employ,* and *loyal*. [Have students write this rule in their packets.]

Teacher: Now, let's look at when to use *ou* or *ow* to spell the /ou/ sound. Look at the words in Column A and Column B.

Column A	Column B
shout	plow
found	flower
out	power

Teacher: What can you conclude about the use of *ou* for the /ou/ sound and *ow* for the /ou/ sound? [Guide students in looking at the position of the /ou/ sound in both columns.]
[Ask students if they have any ideas on when to use these two spellings for the /ou/ sound.]
Teacher: You spell words with *ou* for the /ou/ sound if the sound is at the beginning of a word or in the middle of a word, such as in *shout, found,* and *out*. [Have students to write this rule in the packets.]
Teacher: You use *ow* for the /ou/ sound if the sound is at the end of a syllable or the end of a word like *plow, flower,* and *power*. [Have students write this rule in their packets.]

Teacher: Now, I'm going to dictate some words to you, and I want you to write the correct spelling on your page.

1. count	2. house	3. compound	4. joint	5. voice
6. ointment	7. crowd	8. soil	9. royal	10. soy

[Call on various students to orally spell the words that they have written down. Encourage other students to make corrections where needed.

Lesson 8

Part I

Example of spelling: Incorrect: bafroom
Correct: bathroom

Incorrect: smoov
Correct: smooth

Incorrect: dus
Correct: thus

Incorrect: toof

Correct: _____

Pronounce these words.

1. cloth 2. broth 3. south 4. death 5. others

Circle the misspelled word or words, and write the words correctly on the line.

6. My brother lives on the norf side of town. _____

6. My mouf is hurting because of a toofache. _____&_____

7. I took a deep breaf before blowing out the candles._____

8. James knows how to breave underwater. _____

9. I went to the movies, and den I went home._____

Part II

In this section, you will have to circle the correct word to make the subject and verb agree.

Example : . Tony (run / runs) fast.

Independent Practice

10. The ladies (*ride* / rides) their bike in the race.

11. The schools (*close* / closes) on President's Day.

12. Johnson High School (make / *makes*) students feel welcomed.

13. Marlon and Melissa (*hurry* / hurries) to their seats.
14. Blythe (dress / *dresses*) neatly.

15. Jennifer (buy / *buys*) expensive clothes.

16. David (love / *loves*) football.

17. Aaron and Tina (*play*/ plays) the guitar.

18. Horses, cows, and chickens (*find* / finds) food on the farm.

Part III

When is /oi/ spelled with *oi*, and when is /oi/ spelled with *oy*?

Column A	Column B
oil	joy
join	employ
spoil	loyal

Rule for spelling /oi/ with *oi*_____

Rule for spelling /oi/ with *oy*_____

When is /ou/ spelled with *ou*, and when is /ou/ spelled with *ow*

Column A	Column B
shout	plow
found	flower
out	power

Rule for spelling /ou/ with *ou*_____

Rule for spelling /oi/ with *oy*_____

Directions - Write the words dictated by the teacher.

1. _____ 2. _____ 3._____

4. _____ 5._____6._____

7. _____ 8. _____9. _____

10. _____

VITA

Ramona Trinette Pittman

205 Stone Building Tallahassee, FL 32306•713-320-6297• ramonapittman@yahoo.com

EDUCATION

Texas A&M University, College Station, TX 2007
- Doctor of Philosophy, Curriculum & Instruction

William Carey College, Hattiesburg, MS 2000
- Master of Education, Curriculum & Instruction

University of Southern Mississippi, Hattiesburg, MS 1998
- Bachelor of Science, Elementary Education

PROFESSIONAL EXPERIENCE

Florida State University, Tallahassee, FL 2007-Present
- Assistant Professor, Florida Center for Reading Research and Department of Teaching and Learning

Texas A & M University, College Station, TX 2005-2007
- Graduate Research and Teaching Assistant

Alief ISD (Alief-Taylor High School), Houston, TX 2004-2005
- Title I Reading Teacher, 9th grade

Aldine ISD (Stovall Middle School), Houston, TX 2001-2004
- Reading/Language Arts Teacher, 8th grade

Hattiesburg Public Schools (Jones Elementary), Hattiesburg, MS 2000-2001
- Reading/Language Arts Teacher, 6th grade

Marion County Public Schools (West Marion Elementary), Foxworth, MS 1999-2000
- Reading/Language Arts Teacher, 5th grade

SELECTED PRESENTATIONS

Pittman, R. T., Joshi, R. M., Boulware-Gooden, Berry, J., & Graham, L. (2007, April). *Dialect's Influence on the spelling and grammar of African American children*. Paper presented at the annual meeting of the American Education Research Association, Chicago, IL.

Pittman, R. T., West, C., Joshi, R. M., & Boulware-Gooden, R. (2006, November). *Spelling,Writing, and Dialect: Evidence of African American children.* Paper to presented at the International Dyslexia Association, Indianapolis, Indiana.

Pittman, R. T., West, C., Joshi, R. M., Boulware-Gooden, R., & Graham, L. (2006, July). *African American Vernacular English: Patterns of rural and urban African American students in Texas*. Paper presented at the Society of the Scientific Study of Reading, Vancouver, British Columbia (Canada).