Spelling: a comparison between a formal text-based program and an integrated approach

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SPELLING: A COMPARISON BETWEEN
A FORMAL TEXT-BASED PROGRAM
AND AN INTEGRATED APPROACH

by
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Approved by ___________________________ Professor

Date Approved ________________
ABSTRACT

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SPELLING: A COMPARISON BETWEEN A FORMAL
TEXT-BASED PROGRAM AND AN INTEGRATED APPROACH

1995

Dr. Louis Molinari

Elementary School Teaching

This study was undertaken to determine if there was any
discernible difference in student's spelling performance within
classrooms employing the formal text-based methodology and
classrooms employing an integrated approach.

The sample in this study was 49 third grade, heterogeneously
grouped students from a suburban area school in New Jersey. There
were two classrooms involved with all students in each classroom
participating in the study.

Third grade students in the study were administered a pretest
and post test in word recognition and vocabulary. A comparison of
the mean test scores in the areas of word recognition and vocabulary
for each group within the study was undertaken to help assess the
comparison of the two teaching methods.

The hypothesis stated there would be no significant difference in the spelling achievement levels of students who experienced a formal text-based program and those who received an integrated spelling approach. Although significant differences were not confirmed in all cases, definite trends were identified. Suggestions for future study were made.
The purpose of this study was to determine if there were any discernible differences in children's spelling abilities within classrooms employing a formal text-based program or an integrated approach at the same grade level. Pretest and post test were compared and differences were examined for word recognition and vocabulary. Although significant differences were not confirmed, definite trends were identified. Suggestions for future study were made.
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I would like to thank Dr. Louis Molinari for his professional guidance and patience in the preparation of this work. I would like to thank the third grade students who participated in the study. I would also like to thank my family and friends for their emotional support and efforts to make this study possible. Finally, a special thanks to my mother for the sacrifices she made to help me further my education.
Chapter One

THE PROBLEM

Significance of the Study

The ability to spell correctly has been considered a social virtue as well as an attribute of literacy since written symbols for communication were developed (Devall, 1984). Throughout our history, perhaps more so than in any other English-speaking society, Americans have perceived spelling to be the very soul and fiber of education (Templeton, 1992). With such a strong public interest in spelling, educators need to provide the most effective form of instruction for students. A significant amount of research into the study of spelling has shown spelling instruction to be experiencing a reawakening (Cummings, 1988). This reawakening has created differing opinions concerning the methods of spelling instruction.

Researchers have recently examined many questions which
pertain to spelling instruction. For instance, What is the best way for students to practice words? Should there be a pretest before the words are studied? How useful are spelling rules? Are looking up the definitions of words and writing them in sentences useful? These questions have lead to the examination of “formal” spelling instruction, a model of teaching which has its roots in the scientific movement in education of the early twentieth century (Wilde, 1990).

The formal approach to spelling is generally accompanied by the acceptance of instructional principles that focus upon teaching the child to spell in a clear-cut and exacting manner (Polloway, 1982). This approach uses traditional spelling textbooks, word lists, and weekly testing. The textbooks and word lists are organized according to generalizations or orthographic structure and sequenced according to perceived difficulty. Formal spelling programs engage students in memorizing word spellings within the context of broad generalizations or structural patterns. The common practices in formal instruction are to have a pretest on Monday. For the next three days, do exercises from the textbook, along with writing and studying the words. Finally have a post test on Friday. Post test scores are typically recorded and used as the basis for a grade in spelling on the report card. Spelling instruction occurs in a separate time slot, apart from the reading and writing time slots.
Studies have shown there is a degree of unfairness to students being taught using formal spelling instruction. It is the misuse of formal practice to expect children to learn words that are too difficult developmentally, or to have other children learn words they already know (Morris, 1989). The child's developmental experience with spelling is not considered relevant as long as sufficient teaching and practice are provided when formal instruction is being used (Norris, 1989).

There has been some past research suggesting that the effectiveness of formal spelling programs have been overrated. One study found that of five different language arts programs, the best spelling came from students in a program with a good deal of related reading and writing but no formal spelling curriculum, and the worst from those who received formal spelling instruction unrelated to reading and writing (Callaway, McDaniel, and Mason, 1972). This study accurately defines what is currently known as the integrated spelling program.

Integrated spelling is based on research which indicates spelling is a language behavior that is developmental, exhibiting predictable stages of acquisition that begin in early childhood (Norris, 1989). Students' understanding of the structure of words appears to follow a developmental sequence of four stages. (Henderson and
Templeton, 1986). In the first stage, the pre-phonetic stage, children start to represent speech sounds with letters of the alphabet. The second stage is the phonetic stage where children reliably use a letter-name strategy to represent the phonological pattern of each word. The third stage produces a transitional spelling to the correct form in which short vowels are represented correctly, and long vowels are given a marker. The fourth stage is attained when children are able to spell words correctly using consonant blends, and vowel markers as needed. This brief discussion of the differing stages in word knowledge is to illustrate general trends in spelling development.

An integrated program of reading, writing, and word study that allows students to apply knowledge at their appropriate developmental levels offers teachers a firm foundation for spelling instruction (Templeton, 1991). An understanding of a child’s stage-like progression toward conventional spelling can give teachers invaluable insights into not only what children understand but also what they are going to understand next (Gill, 1992). Unlike formal instruction, an integrated approach does not follow specific instructional practices. However, actual classroom practices come from the following theoretical base:

1. The goal of spelling curriculum and instruction is to produce
2. Learning to spell is the acquisition of a complex schematic system that is learned through use and expressed in increasingly successful approximations to mature practice.

3. Because learning to spell is a developmental process dependent on both maturation and experience, pace and direction are determined primarily by the learner (Wilde, 1990).

The unfolding understanding that learning to spell is not simply a matter of memorizing words but in large measure a consequence of developing cognitive strategies for dealing with English orthography poses one of the most significant challenges for curriculum developers in the long heritage of this school subject (Templeton, 1986). However, this new knowledge about spelling development and a broader view of spelling in the classroom have not, for the most part, replaced the formal spelling curriculum. Most teachers, whether by their own choice or by school system mandate, still use spelling books. Such an approach, even though useful, may not provide sufficient support for children to form and to differentiate word categories that are the basis of developmental learning. This study will attempt to discover if there is any discernible differences in achievement and attitude between two different spelling approaches.
Statement of the Problem

The purpose of this study was to determine if third grade children instructed in spelling using an integrated approach show a significant difference in word recognition and word usage than third grade children who are instructed using a formal text-based spelling approach. In order to discover any significance, the students were measured by word recognition test and vocabulary test.

Statement of the Hypotheses

There will be no significant difference in word recognition skills between Group I, a heterogeneous group of third grade students instructed using the "McGraw-Hill, Third Grade Basic Goals in Spelling, Eighth Edition," a formal text-based spelling program, and Group II, a heterogeneous group of third grade students instructed using "Silver Burdett and Ginn, Third Grade World of Reading," an integrated approach, as measured by unit word recognition test.

There will be no significant difference in vocabulary skills between Group I, a heterogeneous group of third grade students instructed using the "McGraw-Hill, Third Grade Basic Goals in
Spelling. Eighth Edition,” a formal text-based spelling program, and Group II, a heterogeneous group of third grade students instructed using “Silver Burdett and Ginn, Third Grade World of Reading.” an integrated approach, as measured by unit vocabulary test.
Method of Study

Participants. The sample in this study was 49 third grade, heterogeneously grouped students from a suburban area school in New Jersey. There were two classrooms involved with all students in each classroom participating in the study.

Apparatus. The "McGraw-Hill, Third Grade Basic Goals in Spelling, Eighth Edition," was used for the formal text-based spelling approach. "Silver Burdett and Ginn, Third Grade World of Reading," was used for the integrated spelling approach. A word recognition test was used for pretest and post test evaluations. A vocabulary test was used for pretest and post test evaluations. Spell It Plus (1991 Davidson & Associates, Inc.) software was used for computer assisted instruction. Macintosh computers were used by the students to run the computer software.

Procedure. The study took place over a five week period. The study began with pretest to evaluate word recognition and vocabulary skills. During the five week period, Group I received spelling instruction using a formal text-based spelling program, "McGraw-Hill, Third Grade Basic Goals in Spelling." The students worked with a list of words from the text. These words were used for the week. On Monday the students had a pretest. The following three
days consisted of workbook pages using the words. Friday the
students took a post test, which was recorded for report card grades.
Spelling was taught as a separate subject for 30 minutes each day.

Group II received spelling instruction using an integrated
approach. On Monday, the students were introduced to a story they
would be reading that week. Based on the story title, the students (as
a class) would design a related word web by brainstorming. The
teacher would help to develop new words which the students would
encounter in the story. Once a list was developed the students would
use these words for spelling that week. On Tuesday, students had the
opportunity to work with these words in context. They would read
their story and search for the sentence that contained the words.
These sentences would be saved until Wednesday, at which time the
children would look up each word in the dictionary and decide which
meaning best fit the sentence found in the story. On Thursday, the
words were used to write new literature. Students were given a
writing activity that required them to retell the reading story using
their spelling words. Friday was evaluation day when students were
tested on the sentences they used throughout the week. To further
integrate spelling into the curriculum students used Spell It Plus, a
computer program which emphasizes an integrated approach to
learning. As students moved through the program, they read their
spelling words used in context sentences, saw the words broken down into syllables, unscrambled the words, completed words with missing letters, and recognized words correctly and incorrectly spelled.

The five weeks concluded with both groups receiving a post test to evaluate word recognition and vocabulary skills.
Limitation of the Study

This study was limited in three areas. The size of the sample was limited to two third grade classes. All the students were from one school. Each group of students was taught by a different teacher.

Definition of Terms

1. Formal Spelling Instruction is a five day spelling plan in which students practice spelling words unrelated to other curriculum areas.
2. Integrated Spelling Instruction involves an interaction with reading, writing and vocabulary development.
3. Word recognition is the ability to identify the correct spelling of words.
4. Vocabulary evaluation is the ability to complete a sentence based on the meaning of a word.
5. Computer Assisted Instruction is instruction delivered by a computer program.
Organization of the Study

This study is organized into five chapters to clearly cover the information in a succinct manner. Chapter One sets forth the significance of the study and the purpose. The hypothesis to be tested is included in this chapter as well as a brief statement about the methodology by which the study will be conducted. All questionable terms used are defined, and the limitations of the study are discussed.

Chapter Two is a review of the related literature available prior to the beginning of the study. The review of the literature includes mention of the different forms of instruction used to teach spelling.

Chapter Three is a detailed account of the study's design. Included are the demographics of the participants and procedures followed during the study.

Chapter Four presents the analysis of the data compiled. All the data is presented and a statistical analysis made for comparison to the hypotheses. Preliminary conclusions are presented.

Chapter Five presents data based conclusions drawn from the pretest, post test and survey. It is here that any recommendations for further study and changes are presented.
Chapter Two

REVIEW OF THE LITERATURE

How Spelling Developed

To better understand where the spelling system is today, we should be aware of its past. The spelling system is a repository of the history of the English Language (Henderson, 1990), and there are many historical accounts addressing the history of English and American spelling (Cummings, 1988; Henderson, 1990). The forces and the languages that have shaped English still reside in its spelling (Templeton, 1992). Over a period of a millennium, Danish, French, Latin, and Greek have contributed their vocabulary and their spelling patterns to English. In Old English (450-1066 A.D.), spelling was alphabetic, matching up sounds with individual letters in a left-to-right direction. In Middle English (1066-1500), the influence
primarily of French changed this straightforward one letter/one sound match up. Letter/sound match ups became more complex, two vowel letters for a single vowel sound, different letters representing the same sound, different sounds being represented by a single letter. In addition to the alphabetic principle in which the letter is the unit of sound within a word, because of the influence of French, a group of letters or a pattern now corresponded to sound. And from about 1500 to 1700, during the early phase of Modern English, Greek and Latin vocabulary and word elements were extensively appropriated to label and describe the extraordinary discoveries in the new system. It was this vocabulary that primarily contributed to the semantic function of the spelling system. While a group of letters could still be described as corresponding to sound, they could now, in addition, be understood as corresponding to a element of meaning as well.

There was a time when spelling rules were vague, learned individuals spelled as they wished. During this time reading was primarily oral. Reading was a slower process; readers would point to each word with a bookmark as they read aloud. As individuals read more for personal enjoyment, they came more often to read silently. Written as opposed to spoken words became more important in reading and eventually in printing as well. To facilitate
standardization in printing and publishing spelling became more fixed and predictable. While individuals centuries ago might "invent" their spellings in their own correspondence, their efforts would become increasingly judged according to a printed standard. After Richard Mulcaster's Publication in 1582 of *The First Part of the Elementarie*, in which he called for more consistency and suggested standard spellings for hundreds of high-frequency word, the schools exerted their considerable influence toward a standard spelling (Brengelman, 1980).

Formal Approaches To Teach Spelling

Much of the past research into spelling has focused primarily on the speller, on methods of teaching spelling, and on the words to be spelled (Cahen, Craun, and Johnson, 1971). The speller was addressed through the tabulation of types of errors, but there was little analysis of these errors. Methodological studies attempted to find the best way to learn to spell words; there were many strategies (Betts, 1940; Hildreth, 1955; Horn, 1960, 1969), most included the study of lists of words. The clear constant in these studies was the "test/study/test" routine for mastering the list (Horn, 1960).

The fact that learners were the focus of earlier studies only in terms of the types and tabulation of their errors is not surprising.
For most of our history, educators' notions of the nature of the child as learner have in fact reflected the "empty vessel," outside-in conception of, first, the empiricists, and later, the behaviorist (Blamuth, 1981). This is why most of the research was addressing the phonetic function: alphabetic and syllable-based, pattern levels of the spelling system; and it was concerned with how to get the correct spelling into the heads of the learners (Templeton, 1992).

Instructional strategies developed based on this past research has shown spelling to follow a formal program. Formal approaches are organized around a predetermined scope and sequence of generalizations and patterns that are based upon normative notions of spelling (Henderson, 1990). The objective is to teach orthographic generalizations to students within an explicit teaching model using words from graded spelling text. Word list are organized according to generalizations or spelling structure and sequenced according to perceived difficulty. Formal spelling programs engage students in memorizing word spellings within the context of broad generalizations or structural patterns.

The bulk of spelling instruction occurs in a separate time slot, apart from the reading and writing time slots, thus evaluating spelling to the same status as reading and writing. A linear routine of the test-study-test approach, managed by the teacher, sequences the
teaching and learning activities in the following manner: The teacher introduces a list of words weekly, conducts a pretest, prepares instructional and follow-up activities, encourages correct spelling, conducts a post test, and documents development. Students participate in a variety of instructional activities such as filling in crossword puzzles, writing definitions and sentences, copying words, and sorting words.

Research has shown formal spelling programs neutralize the constructive nature of students' thinking and may also inhibit students' sense of self-determination (O'Flahavan & Blassberg, 1992). Formal spelling programs leave children to depend upon rote memorization or the application of seemingly arbitrary rules that appear to have more exceptions than regularities (Norris, 1989).

An Integrated Approach To Teach Spelling

Recent research suggest that spelling is a language behavior that is developmental, exhibiting predictable stages of acquisition that begin in early childhood (Bookman, 1984; Ferreiro, 1986; Hall, 1984; Henderson & Templeton, 1986; Hoffman & Norris, 1989). Many researchers have given the stages different names or emphasized different parts of development, but the characteristics of each stage are the same.
When children first begin to write, they use random letters and symbols. These spellings show how children are able to apply their developing knowledge about print and the sounds that letters represent in an attempt to express what they want to say. At first, these spellings are strung together without the spaces one would expect to find in printed English. Gradually, however, spaces appear, and the writing becomes more understandable.

Spellers on the next level have an understanding of the patterns to which letters and sounds correspond within single-syllable words. Sight words provide the foundation for children's first careful examination of the actual way in which words are spelled in English (Henderson, 1985).

As spelling develops students have an understanding of the conventions that govern the joining of syllables, prefixes, and suffixes. After examining consistent patterns within single-syllable words, students are developmentally ready to study words with more than one syllable. Instruction here focuses on the conventions that determine spelling at the point where syllables join together, including the addition of prefixes and suffixes to base words.

The final development involves an in-depth exploration and understanding of the derivative relationships among words in English, the spelling/sound patterns that apply to words that are
related in spelling and meaning. As pupils' vocabularies expand
during the upper elementary years, they come to include words that,
although more abstract in terms of meaning, exhibit a high degree of
regularity when examined from the perspective of the meaning
principle of English spelling (Templeton, 1979).

Spelling knowledge develops according to identifiable stages,
and it is learned through reading, writing and systematic study
(Wilde, 1990). Research into invented spelling established one of the
first links between reading and writing (Henderson, 1981). This work
has been elaborated and extended by a number of developmental
psychologists (Ehri & Wilce, 1985; Stanovich, 1988; Treiman, 1987)
Recent research has examined spelling knowledge within a broader
perspective of developmental reading and writing behaviors (Bear,

All of these lines of research, for many reasons so much wider
in scope than the earlier research into spelling, suggest that there
may be a common underlying source of word knowledge for reading
and spelling (Templeton, 1992). The ways in which individuals apply
this knowledge, however, may be different in different situations
and as a result of different types of instruction.

The stages of spelling knowledge illustrate that first, third, and
sixth graders focus on different types of information when they look at words. At each stage of word knowledge, readers immediately identify words that directly reflect the type of knowledge characteristic of that stage, words that readers do not immediately identify are analyzed based on the student's stage of orthographic knowledge (Bear, 1989).

The following steps show how students apply knowledge of the structure of words in their reading:

1. Letter-name spellers survey words left to right, letter by letter, and their reading is word by word. Their reading is not fluent, and it is naturally out loud.

2. Students at the within-word-pattern stage pick up groups of letters. As they fixate on a word, they will first pick up the beginning single consonants, or consonant blends and digraphs, and then the phonogram—the vowel that follows. Because they are not scanning words letter by letter but organizing letters by patterns, more cognitive space is freed so that they are able to attend to the construction of meaning and to the intonation patterns of the language.

3. Students at the syllable-juncture or derivational-constancy stages have quite abstract word knowledge that works both within and between syllables in polysyllabic words and that incorporates...
students' knowledge of morphemic, or meaning, elements—prefixes, suffixes, and word roots (Templeton, 1983).

Without the underlying orthographic knowledge that supports efficient word identification, even the richest prior knowledge will not help the reader construct appropriately the meaning that the print on the page suggests (Perfetti, 1985). Highlighting the importance of orthographic knowledge in reading is not to say that everything else is unimportant. It is saying, though, that other types of prior knowledge such as topic knowledge of genre will be more likely to be called on and used efficiently if word knowledge is sufficient to the reading task.

Although correct spelling should not be a primary concern in writing until the editing phase, the initial encoding of words will be more automatic and efficient if orthographic knowledge is more developed (Shaughnessy, 1977). Research has shown that some students are letter-by-letter writers, others word-by-word writers, and others more fluent writers, encoding words almost in phrasal units (Bear, 1989).

Spelling, as related to the writing process, follows the following example. Early in the letter-name stage, children's writing is letter by letter, with each word being a significant effort in itself. Because of this, compositions are usually brief, however children have
expended considerable effort. Later, just as with reading, more
cognitive space is available for planning and attending to meaning as
the encoding of words is performed more automatically, in units that
are now groups of letters within words. Finally, students in the
syllable-juncture stage; in addition to the planning time allowed by
rapid encoding of words, can learn to apply analogical reasoning
when encoding words whose spellings they are unsure.

The arguments for including spelling instruction as a major
component of the reading and language program are strong. An
integrated program of reading, writing, and word study that allows
students to apply knowledge at their appropriate instructional levels
offers teachers coherent, manageable tools to augment memory in
spelling tasks (Adams, 1990). Students develop understanding of
orthographic patterns and root constancy when presented with
meaningful tasks at appropriate levels. Appropriate assessment and
grounded word study in conjunction with an interactive reading and
writing program provide a firm foundation for spelling instruction
(Harste & Burke, 1980).
Summary

It is, of course, important that students learn how to spell. As part of our language, spelling is interesting in itself, and spelling proficiency helps writers compose fluently, communicate clearly, and create a good impression in a variety of written-language social situations. The use of integrated spelling in the classroom can help both teachers and students discover the intrinsic interest of an aspect of language that textbooks have often made dull and tedious. Spelling is only a small part of what should be a rich curriculum in language and literature. Perhaps one of the greatest virtues of the new spelling curriculum described here is that it largely eliminates spelling as a separate subject; instead, spelling occurs as part of writing. It is enhanced by an extensive reading program, and can also be part of learning about language for its own sake. Learning to spell should ultimately be as natural, unconscious, effortless, and pleasant as learning to speak.
Chapter Three

DESIGN OF THE STUDY

Introduction

The purpose of this study was to determine if third grade children instructed in spelling using an integrated approach show a significant difference in word recognition and word usage than third grade children who were instructed using a formal text-based spelling approach. In order to discover any significance, the students were measured by word recognition test and vocabulary test.

Setting

The school used for this study was the Blackwood Elementary School located in Blackwood, Camden County, New Jersey. Blackwood Elementary is one of ten schools located in the Gloucester Township School District, the largest K-8 school district in New Jersey.

Gloucester Township, the third of the original Townships which
made up "Old" Gloucester County, was incorporated June 1, 1695. The
other townships included Deptford, Greenwich, Gloucester Town,
Newton, Waterford and Egg Harbor; but of all these Gloucester
Township was the largest.

Gloucester Township takes its name from the Cathedral town of
Gloucester, on the banks of the Severn, in England. Throughout
almost three centuries of history, Gloucester Township, even though
its boundaries have changed, has retained its original name.

Blackwood Elementary, one of the larger elementary schools in
the district, consist of three kindergarten, one pre-first, five first, six
second, five third, five fourth, and six fifth grade classrooms. In
addition to the regular classroom teachers, specialists in Reading,
Math, Language, Counseling, Library, Art, Music, Life Skills, Physical
Education, and Speech Therapy interact with the children on a daily
or weekly basis. A full time Child Study Team is also available within
the district to attend the needs of the student population. Our district
also provides a certified E.S.L. staff member to service non-English
speaking students.

Currently, about 850 students make up the population at
Blackwood Elementary. The student population is 72% white, 18%
black, 6% Asian/Pacific Islander, and 4% Hispanic. The socioeconomic
level of the school consist mainly of middle class citizenry. An
addition to the school was recently completed to help combat the growing population of the district.

Description of the Population

The groups, which were the subject of this study, consisted of two of the five third grade classrooms at Blackwood Elementary. The total population of the study was 54 third grade, heterogeneously grouped students. These classrooms were targeted because it was the first time that colleagues at the same grade levels employed different teaching approaches to fulfill prescribed district curriculum; namely, Spelling instruction.

Description of the Instrument

All students in the study were administered a pretest and post test in word recognition and vocabulary. A comparison of the mean test scores in the areas of word recognition and vocabulary for each group within the study was undertaken to help assess the comparison of the two teaching methods.

The first of the two measuring devices for this study was the word recognition test. The test measures the students understanding of correctly spelled words. This test for Group I was adapted from the "McGraw-Hill, Third Grade Basic Goals in Spelling, Eighth Edition."

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The test for Group II was adapted from the "Silver Burdett and Ginn, Third Grade World of Reading."

The second measuring device was a vocabulary test. This test is concerned with the student understanding of using words in context. The test for Group I was adapted from the "McGraw-Hill, Third Grade Basic Goals in Spelling, Eighth Edition." The test for Group II was adapted from the "Silver Burdett and Ginn, Third Grade World of Reading."

Relationship of the Instrument to the Null Hypothesis

The general hypothesis of this study is: There will be no significant difference in word recognition skills and vocabulary skills between Group I, a heterogeneous group of third grade students instructed using the "McGraw-Hill, Third Grade Basic Goals in Spelling, Eighth Edition," a formal text-based spelling program, and Group II, a heterogeneous group of third grade students instructed using "Silver Burdett and Ginn, Third Grade World of Reading," an integrated approach, as measured by unit word recognition test.
Procedure

The study took place over a five week period. The study began with pretest to evaluate word recognition and vocabulary skills. During the five week period, Group I received spelling instruction using a formal text-based spelling program, “McGraw-Hill, Third Grade Basic Goals in Spelling.” The students worked with a list of words from the text. These words were used for the week. On Monday the students had a pretest. The following three days consisted of workbook pages using the words. Finally, on Friday the students took a post test, which was recorded for report card grades. Spelling was taught as a separate subject for 30 minutes each day.

Group II received spelling instruction using an integrated approach. On Monday, the students were introduced to a story they would be reading that week. Based on the story title, the students (as a class) would design a related word web by brainstorming. The teacher would help to develop new words, which the students encountered in the story. Once a list was developed the students would use these words for spelling that week. On Tuesday, students had the opportunity to work with these words in context. They would read their story and search for the sentence that contained the words. These sentences would be saved until Wednesday, at which time the children would look up each word in the dictionary and
decide which meaning best fit the sentence found in the story. On Thursday, the words were used to write new literature. Students were given a writing activity that required them to retell the reading story using their spelling words. Friday was evaluation day, students were tested on the sentences they used throughout the week. To further integrate spelling into the curriculum students used Spell It Plus, a computer program which emphasizes an integrated approach to learning. As students moved through the program, they read their spelling words used in context sentences, saw the words broken down into syllables, unscrambled the words, completed words with missing letters, and recognized words correctly and incorrectly spelled.

The five weeks concluded with both groups receiving a post test to evaluate word recognition and vocabulary skills.

Time Period of Data Collection

The study took place over a five week period. The study began with a pretest in the beginning of February 1995. During the first week of March 1995 each group was given the post test.
Summary

Comparisons of the pretest and posttest scores from the word recognition and vocabulary test were used to assess the integrated methodology of teaching spelling in relationship to the formal text-based mode of instruction. Analysis of the scores would determine the validity of the hypotheses central to this study.
Chapter Four

ANALYSIS OF THE DATA

Introduction

This study gathered information to determine if third grade children instructed in spelling using an integrated approach show a significant difference in word recognition and word usage than third grade children who were instructed using a formal text-based spelling approach. In order to discover any significance, the students were measured by word recognition test and vocabulary test.

The hypotheses tested were:

1. There will be no significant difference in word recognition skills between Group I, a heterogeneous group of third grade students instructed using the "McGraw-Hill. Third Grade Basic Goals in Spelling. Eighth Edition," a formal text-based spelling program, and Group II, a heterogeneous group of third grade students instructed using "Silver Burdett and Ginn. Third Grade."
World of Reading,” an integrated approach, as measured by unit word recognition test.

2. There will be no significant difference in vocabulary skills between Group I, a heterogeneous group of third grade students instructed using the “McGraw-Hill, Third Grade Basic Goals in Spelling, Eighth Edition,” a formal text-based spelling program, and Group II, a heterogeneous group of third grade students instructed using “Silver Burdett and Ginn, Third Grade World of Reading,” an integrated approach, as measured by unit vocabulary test.

Analysis of Data Related to the Null Hypotheses

The first hypothesis stated that there would be no significant difference in word recognition between students who received instruction using a formal text-based spelling program and students who received instruction using an integrated approach.

The word recognition results of the pretest and posttest for the formal text-based group are shown in Table 1 along with the mean of each. The difference between each of the pretest and posttest are also shown, as well as the mean of the differences. The pretest for the formal text-based group ranged from a low of 64% to a high of 100%, resulting in a mean of 91.67%. The posttest ranged from 76% to 100%, resulting in a mean of 95.25%. The mean difference for this group was 3.17.
**TABLE 1**

Word Recognition Results of the Pretest and Posttest of Group I

as Measured by the McGraw-Hill Word Recognition Test

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<tr>
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</table>

**MEAN**  91.67  95.25  3.16
In Table 2 the results of the integrated approach group's pretest and post test for word recognition are shown. The pretest ranged from a low of 60% to a high of 96%, resulting in a mean of 80.56%. The posttest ranged from 78% to 100%, resulting in a mean of 90.08%. This group showed a wider range of growth for word recognition with a mean difference of 9.52.

**TABLE 2**

Word Recognition Results of the Pretest and Posttest of Group II as Measured by the Silver Burdett & Ginn Word Recognition Test

<table>
<thead>
<tr>
<th>STUDENT</th>
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<td><strong>90.08</strong></td>
<td><strong>9.52</strong></td>
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Table 3 shows the vocabulary results of the pretest and posttest for the formal text-based group. The pretest ranged from a low of 38% to a high of 100%, resulting in a mean of 85.75%. The posttest ranged from 26% to 100%, resulting in a mean of 86.42%. The mean difference for this group was .67%.

**TABLE 3**

Vocabulary Results of the Pretest and Posttest of Group I as Measured by the McGraw-Hill Vocabulary Test

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MEAN 85.75 86.41 0.67
The vocabulary results of the pretest and posttest for the integrated approach group are shown in Table 4. The pretest for this group ranged from a low of 58% to a high of 98%, resulting in a mean of 83.04%. The posttest ranged from 72% to 100%, resulting in a mean of 91.52%. This group showed a wider range of growth for vocabulary with a mean difference of 8.48%.

**TABLE 4**

Vocabulary Results of the Pretest and Posttest of Group II as Measured by the Silver Burdett & Ginn Vocabulary Test

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<td>MEAN</td>
<td>83.04</td>
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</table>
Graph 1 is a summary of the differences for the word recognition test of Group I and Group II. Group I had a mean growth of 3.17. Group II had a mean growth of 9.52. Group II showed a more positive growth in word recognition.

**GRAPH 1**

Word Recognition Comparison of the mean difference of Group I and Group II
Graph 2 is a summary of the differences for the vocabulary test of Group I and Group II. Group I had a mean growth of .67. Group II had a mean growth of 8.48. Group II showed a more positive growth in vocabulary.

**GRAPH 2**

Vocabulary Comparison of the mean difference of Group I and Group II

![Graph showing differences in vocabulary between Group I and Group II](image-url)
A t-Test was used to determine the statistical significance of the growth of word recognition skills of Group I and Group II. The results of the test conducted, using the program Microsoft Excel, are shown in Table 5. The mean gain for Group I was 3.17 with a standard deviation of 4.966555. The mean gain for Group II was 9.52 with a standard deviation of 8.684853. Thus, there was not a significant difference (t=0.003078) between the gain scores of the two groups.

### TABLE 5

<table>
<thead>
<tr>
<th>t-Test for the Word Recognition Difference</th>
<th>Between the Means of Group I and Group II</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group Mean 1 = 3.17</td>
<td>Group Mean 2 = 9.52</td>
</tr>
<tr>
<td>Stan Dev 1 = 4.966555</td>
<td>Stan Dev 2 = 8.684853</td>
</tr>
<tr>
<td>Hypothesized Difference = 0.000000</td>
<td></td>
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<tr>
<td>t Statistics = 0.003078</td>
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</tr>
<tr>
<td>Degrees of Freedom = 48</td>
<td></td>
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</tbody>
</table>
A t-Test was used to determine the statistical significance of the growth of vocabulary skills of Group I and Group II. The results of the test conducted, using the program Microsoft Excel, are shown in Table 6. The mean gain for Group I was .67 with a standard deviation of 8.057762. The mean gain for Group II was 8.48 with a standard deviation of 6.564551. Thus, there was not a significant difference \((t=0.00057)\) between the gain scores of the two groups.

**TABLE 6**

<table>
<thead>
<tr>
<th>t-Test for the Vocabulary Difference</th>
<th>Between the Means of Group I and Group II</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group Mean 1 = .67</td>
<td>Group Mean 2 = 8.48</td>
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<tr>
<td>Stan Dev1 = 8.057762</td>
<td>Stan Dev2 = 6.564551</td>
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<tr>
<td>Hypothesized Difference = 0.000000</td>
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<td>(t) Statistics = 0.00057</td>
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<tr>
<td>Degrees of Freedom = 48</td>
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</table>
Summary

The results of the word recognition data show that there was not a significant difference between the group which received the formal text-based spelling and the group which received an integrated approach to spelling. However, an examination of the data indicated there was a noted trend in growth for the integrated group.

The results of the vocabulary data show that there was not a significant difference between the group which received the formal text-based spelling and the group which received an integrated approach to spelling. Again, an examination of the data indicated there was a noted trend in growth for the integrated group.
Chapter Five

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

This study was undertaken because the more traditional styles of teaching spelling have begun to be replaced by an integrated approach. The integrated approach, rather than emphasizing a single aspect or rule, emphasizes the total Language development of a child. This new approach is rooted in the philosophy that language need not be broken into many fragmented parts as found in the more traditional spelling programs.

The devices used to test the hypotheses within the study were a pretest and posttest in word recognition adapted from the "McGraw-Hill, Third Grade Basic Goals In Spelling, Eighth Edition." A pretest and posttest in vocabulary adapted from the "McGraw-Hill, Third Grade Basic Goals In Spelling, Eighth Edition." The second
group was evaluated using a pretest and posttest in word recognition adapted from the "Silver Burdett and Ginn, Third Grade World of Reading." A pretest and posttest in vocabulary adapted from the "Silver Burdett and Ginn, Third Grade World of Reading."

An in-depth review of current literature was used as the basis of gaining insight into the workings of the formal text-based spelling approaches and the integrated spelling approaches. An ever increasing data base, developed through scholarly research, indicates that the integrated approach is indeed, a significant movement within the educational field. This develops from educators philosophy in the Whole Language movement.

The purpose of this study was to determine if third grade children instructed in spelling using an integrated approach show a significant difference in word recognition and word usage than third grade children who were instructed using a formal text-based spelling approach. In order to discover any significance, the students were measured by word recognition test and vocabulary test. A general hypothesis was formulated as a result of the stated purpose. Two specific hypotheses were then formulated from the general hypothesis.

The first specific hypothesis states: there will be no significant difference in word recognition skills between Group I, a
heterogeneous group of third grade students instructed using the
formal text-based spelling program, and Group II, a heterogeneous
group of third grade students instructed using "Silver Burdett and
Ginn, Third Grade World of Reading." an integrated approach, as
measured by unit word recognition test.

Comparison of the data, noted in Table Five, page 39, confirms
the stated hypothesis. There is no significant difference in the mean
scores of the formal text-based group and the integrated group.
Although there is no significant difference, a trend is noted in Graph
One, page 37, showing the integrated group having a more positive
growth in word recognition.

The second specific hypothesis states: there will be no
significant difference in vocabulary skills between Group I, a
heterogeneous group of third grade students instructed using the
formal text-based spelling program, and Group II, a heterogeneous
group of third grade students instructed using "Silver Burdett and
Ginn, Third Grade World of Reading." an integrated approach, as
measured by unit vocabulary test.

Comparison of the data, noted in Table Six, page 40, confirms
the stated hypothesis. There is no significant difference in the mean

44
scores of the formal text-based group and the integrated group. Although there is no significant difference, a trend is noted in Graph Two, page 38, showing the integrated group having a more positive growth in vocabulary.

The conclusion one must draw from the data strongly supports the general hypothesis that there is no significant difference in the achievement levels of students who experienced a formal text-based instructional approach and those who received an integrated instructional approach. Both approaches accomplish the same goals, albeit they use a different approach in attaining them. Although there are no significant differences, there are trends showing the integrated approach having more growth in word recognition and vocabulary.
Conclusions

As one views the overall performance of the two groups in this study, it is apparent, although not statistically significant in both subject areas that were compared, the integrated approach of instruction does show some decidedly beneficial results that have serious educational implications. The Integrated Spelling Approach encourages students to use words in spelling, reading and writing. Children are more aware of the words they are learning, when they are integrating them into all subject areas.

The integrated approach to Spelling instruction shows a definitive trend in the mean growth in both word recognition and vocabulary. Students in the integrated group had a lower mean average in the pretest, but had a higher growth development in both tested areas. It is apparent that children in the integrated group are able to recognize and use the newly acquired words in other subject areas.

The integrated approach may not produce significant changes within a classroom, but it has shown that it does produce change. Students are learning at a greater rate when teachers use an integrated approach rather than the formal text-based spelling approach.
Recommendations

After completing the study, reviewing the literature and carefully analyzing the data, a number of suggestions for further investigation were generated.

1. A larger and more diverse sample of students should be used. The small size of the sample and the academic abilities of the students involved in this study may have affected the results of the study.

2. A similar study should be undertaken. The study, however should evaluate the reading comprehension levels of each group to determine if there is a significant difference in growth when children integrate their words into reading.

3. A study should be undertaken to evaluate students' attitudes toward spelling. The attitude survey should be given before any spelling instruction occurs, this will show if any changes occur as a result of the instruction.

4. A study should be conducted to evaluate teachers' attitudes toward an integrated spelling approach.

5. Teachers who are willing to integrate spelling into other subject areas should be given adequate in-service programs and visitation to demonstration classrooms.
Bibliography


NAME 

WORD RECOGNITION

DIRECTIONS: Fill in the circle to show the right spelling.

1. sarch ○ serch ○ search ○
2. nerse ○ nurse ○ nirse ○
3. church ○ cherch ○ chorch ○
4. arn ○ earn ○ ern ○
5. lurn ○ lern ○ learn ○
6. verce ○ verse ○ vers ○
7. earth ○ erth ○ arth ○
8. pearch ○ perch ○ purch ○
9. jirk ○ jirk ○ jerk ○
10. bearh ○ burn ○ bern ○

Adapted from McGraw-Hill, Basic Goals In Spelling, 1988
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| 37. | I'am | I'm | Im' |
| 38. | we'll | wel'l | we'le |
| 39. | couldn't | couldn't | coul'dnot |
| 40. | do'not | don'tt | don't |
| 41. | meat | mette | meate |
| 42. | fuor | four | foure |
| 43. | raod | roade | road |
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| 45. | uor | our | oure |
| 46. | way | wai | wae |

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APPENDIX B
NAME

WORD RECOGNITION

DIRECTIONS: Fill in the circle to show the right spelling.

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Adapted from Silver Burdett & Ginn, Spelling Connection, 1989.
| 13. | def | deaf | deaf |
| 14. | invitation | invitation | invitation |
| 15. | language | language | language |
| 16. | performers | performers | performers |
| 17. | sign language | sign language | sign language |
| 18. | signs | signs | signs |
| 19. | sorts | sorts | sorts |
| 20. | throat | throte | throat |
| 21. | discontented | descontented | discontented |
| 22. | elevator | elevetor | elevator |
| 23. | hoon | horn | hoon |
| 24. | picnicking | picnicking | picnicking |
| 25. | plou | plow | ploo |
| 26. | pocets | pockits | pockets |
| 27. | policeman | policeman | policeman |

Adapted from Silver Burdett & Ginn, Spelling Connection, 1989.
### Example of Spelling Correction

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Adapted from Silver Burdett & Ginn, Spelling Connection, 1989.
APPENDIX C
VOCABULARY

DIRECTIONS: Read the sentences. Fill in the circle in front of the word that best completes each sentence.

1. We ________ for the lost puppy.
   O perched
   O lurched
   O searched
   O starched

2. The sick student went to visit the ________.
   O purse
   O nurse
   O nest
   O perch

3. The students went to visit the old ________.
   O button
   O flock
   O pencil
   O church

4. The choir sang the ________ from the new song.
   O editor
   O verse
   O news
   O edit

5. The ________ is made of land and water.
   O earth
   O ocean
   O sky
   O sea

6. I ________ my allowance by doing my chores.
   O earn
   O pretend
   O insist
   O want

Adapted from McGraw-Hill, Basic Goals In Spelling, 1988
7. Scientists ________ many different things about weather.
   - insist
   - forecasters
   - learn
   - instruments

8. Many birds sit on a ____________.
   - perch
   - search
   - earth
   - earn

9. The log in the fireplace will __________ if you light it.
   - fake
   - burn
   - rip
   - fly

10. Rough wind __________ the tree branch during the storm.
    - forecast
    - instrument
    - jerked
    - corrected

11. You can hear the fisherman __________ while he sleeps.
    - think
    - laugh
    - snore
    - start

12. Ariel could not remember the __________ of the game.
    - score
    - team
    - audience
    - alphabet

13. A __________ rushed through the town knocking down trees.
    - blind
    - smart
    - deaf
    - storm

14. Gloria's sister was __________ after Gloria.
    - born
    - education
    - sing
    - pronunciation

Adapted from McGraw-Hill, Basic Goals In Spelling, 1988
15. When you travel up ________ the weather gets colder.
   O ladder
   O language
   O life
   O north

16. The clowns ________ to make us laugh by falling down.
   O start
   O end
   O stand
   O flip

17. The sick girl felt ________ after she went to school.
   O worse
   O verse
   O purse
   O nurse

18. The ________ fell out of the bottle and caused a mess.
   O sign
   O sale
   O sail
   O cork

19. The teacher had to ________ the children who were talking.
   O signs
   O warn
   O sorts
   O warm

20. The ____________ is round and is made up of different people.
   O hand
   O world
   O toes
   O throat

21. You need to carry a ________ tire in your car in case you get a flat.
   O spare
   O hunt
   O front
   O hunt

 Adapted from McGraw-Hill, Basic Goals In Spelling, 1988
22. "We _______ you to run," said the students.
   O communicate  O dare
   O relax  O concentrate

23. We saw the teacher ________ through the window.
   O hiking  O ignoring
   O pitching  O peering

24. The baby had to ________ a coat to go outside during the winter.
   O share  O wear
   O stare  O fair

25. The cowboy had to herd the ________.
   O steer  O position
   O inning  O suggestion

26. It is not polite to ________ at other people.
   O fair  O wear
   O dare  O stare

27. The lost child had a ________ in his eye when his mom found him.
   O puppet  O tear
   O castle  O pitcher

28. The pitcher had a look of__________ on his face.
   O fear  O wear
   O fair  O stare

Adapted from McGraw-Hill, Basic Goals in Spelling, 1988
29. The kicker played __________ during the football game.
   O fear       O punt
   O wear       O fair

30. I can hear my __________ beat loudly.
    O catcher    O heart
    O shortstop  O coach

31. __________ be seeing you after the party.
    O They       O I’ll
    O He        O We

32. __________ see if you did your spelling homework correctly.
    O Let’s      O Let
    O He        O We

33. A driver __________ allowed to pass on the right.
    O can      O can’t
    O be       O isn’t

34. We start school at nine __________ sharp each day.
    O clock     O o’clock
    O time      O cats.

35. The horse __________ pull a cow across the field.
    O can’t     O be
    O plow     O is

36. She __________ do her homework tonight.
    O walk     O be
    O didn’t   O isn’t

Adapted from McGraw-Hill, Basic Goals In Spelling, 1988
37. ________ glad the neighborhood is safe.
   O I'm
   O I'll
   O In
   O Is

38. Tim thinks ________ have homework tonight.
   O I'm
   O we'll
   O it
   O he

39. The horse ________ move in its stall because it was too small.
   O hay
   O couldn't
   O not
   O shafts

40. ________ let the horse drink from the water trough.
   O Not
   O Don't
   O Should
   O Shouldn't

41. The ________ boat was on the ocean.
   O sale
   O car
   O chamber
   O sail

42. She told a tall ________ that we did not believe.
   O chamber
   O tale
   O tail
   O compliment

43. We had to climb the ________ to get to our classroom.
   O stares
   O stairs
   O death
   O dark

Adapted from McGraw-Hill, Basic Goals In Spelling, 1988
44. The girl's ____________ fell off her shoe.

O tail
O cover
O heel
O heal

45. We saw a ____________ of cattle on the farm.

O friend
O herd
O heard
O flock

46. The pitcher ____________ a fast ball to the batter.

O through
O threw
O jumped
O skipped

47. The car had bad ____________ and would not stop.

O messengers
O brakes
O breaks
O containers

48. The woman was carrying a ____________ of water.

O pail
O pale
O relief
O medicine

49. The girl was ____________ in the line going to lunch.

O forth
O temper
O pain
O fourth

50. Tim is to ____________ for the other children to go outside.

O weight
O tiny
O worry
O wait

Adapted from McGraw-Hill, Basic Goals In Spelling, 1988
DIRECTIONS: Read the sentences. Fill in the circle in front of the word that best completes each sentence.

1. "Tomorrow’s weather will be beautiful," said the weather___.
   O fireman       O forecaster
   O frame        O fisherman

2. A trip to the museum is one of the plans our class is ______.
   O carrying      O chattering
   O considering  O clipping

3. Josh had never seen falling snow before, so he ran outside to catch a _______.
   O button       O pencil
   O flock        O flake

4. The _______ selected the articles for the newspaper.
   O editor       O fisherman
   O fireman     O edit

5. The sad baby looked_________ at the broken doll.
   O happily      O gloomily
   O gladly       O nicely

6. "I_________ that you give me my money back," the unhappy customer said.
   O think        O pretend
   O insist      O want

Adapted from Silver Burdett & Ginn, Spelling Connection, 1989.
7. Scientists use many different kinds of____________.
   O insist  O weather
   O forecasters  O instruments

8. Many instruments are used in__________to study the
   weather, climate, and the earth’s air.
   O meteorology  O geology
   O biology  O histology

9. A letter from the President of the United States would be_____.
   O fake  O official
   O ripped  O office

10. Sam made a__________that our school would win the game.
    O forecast  O instrument
    O prediction  O correction

11. The__________dressed up for their parts in the play.
    O clerks  O actors
    O firemen  O fishermen

12. Ariel could not remember all the letters in the__________.
    O adventure  O ambulance
    O audience  O alphabet

13. A completely__________person cannot hear any sounds.
    O blind  O smart
    O deaf  O short

14. Gloria sent her grandmother an__________to her piano recital.
    O invitation  O education
    O prediction  O pronunciation

Adapted from Silver Burdett & Ginn, Spelling Connection, 1989.
15. Alana speaks Spanish and English, but she wants to learn the German ________ too.

- ladder
- language
- life
- landing

16. The clowns were fun to watch because they were such terrific ________.

- performers
- scientists
- pioneers
- flippers

17. Hand signs can be used to talk in ________.

- foreign language
- English language
- sign language
- Spanish language

18. The ________ gave the price and said that the car was for sale.

- sign
- sail
- seal
- sell

19. The fair had all ________ of rides for the children.

- signs
- sorts
- seal
- sail

20. It is hard to talk when your ________ is sore.

- hand
- toes
- foot
- throat

21. Sometimes a batter will ________, hitting the ball in front of the infielders.

- punt
- front
- hunt
- bunt

22. Because my aunt is deaf, she uses sign language to ________.

- communicate
- relax
- rustle
- concentrate

Adapted from Silver Burdett & Ginn, Spelling Connection, 1989.
23. A batter may _________ directions to bunt and hit a home run instead.
   O hike  O ignorer
   O pitch  O yell

24. Before the game started, the rules were explained by the _____.
   O official  O icicle
   O utensil  O editor

25. It was the seventh _________ of the baseball game, and the score was 7 to 6.
   O punt  O position
   O inning  O suggestion

26. The ________ are far away from the catcher.
   O infielders  O pitchers
   O batters  O outfielders

27. On our baseball team, Luis is the best _________.
   O puppet  O plankton
   O castle  O pitcher

28. The pitcher took his _________ facing the batter.
   O position  O education
   O suspicion  O plankton

29. The kicker got ready to _________ the football as far as he could.
   O punt  O hunt
   O punt  O hunt

30. The _________ took her place between second and third base.
   O catcher  O pitcher
   O shortstop  O coach

Adapted from Silver Burdett & Ginn, Spelling Connection, 1989.
31. When they missed their favorite show, the children were _____.
   O discussed  O discovered
   O delighted  O discontented

32. To get to the building’s top floor, Ricardo rode the _________.
   O elevator  O engineer
   O edge      O envelope

33. A driver can use his car _________ to warn others.
   O corn      O horn
   O born      O torn

34. You could smell the food from the people who were ________ in the park, on Saturday.
   O babbling  O picnicking
   O talking   O sleeping

35. The horse pulled a _________ through a field.
   O cow       O plane
   O plow      O elephant

36. Put your hands in your _________ to keep them warm.
   O plow      O plane
   O picnic    O pockets

37. The _________ helps keep a neighborhood safe.
   O thief     O policeman
   O farmer    O fisherman

38. I hitched the horse to the wagon’s _________.
   O shafts    O shifts
   O shots     O shirts

Adapted from Silver Burdell & Ginn, Spelling Connection, 1989.
39. The ________ he was given in the barn was stuffy and too small for him to move around in.
   O hay         O stall
   O plow        O shafts

40. The horse drank from the water ________.
   O trough      O fountain
   O though      O cup

41. The mayor's ________ was full of people waiting to see her.
   O cab         O car
   O chamber     O camp

42. She would ________ and find things wrong with everything.
   O chamber     O complain
   O temper      O compliment

43. Miss Torres woke us early in the morning, just before ______.
   O dawn        O dinner
   O death       O dark

44. The girl ________ her father who was not at all happy about the way she acted.
   O pleased     O displeased
   O covered     O discovered

45. He knew that some people act mean if they feel they are not perfect and have many ________.
   O friends     O frames
   O faults      O flocks

Adapted from Silver Burdett & Ginn, Spelling Connection, 1989.
46. Chores are done by every person in our ___________.
   O harbor           O history
   O household        O hostess

47. One night, a __________ brought news that a storm had destroyed a nearby village.
   O messenger        O message
   O horse            O container

48. A doctor helps patients find __________ from sickness.
   O pain             O relief
   O belief           O medicine

49. The girl was in such a bad mood that she was sent to her room until she was in a better __________.
   O dress            O pain
   O temper           O complain

50. Tim is so hard-working, and would be a __________class president.
   O deaf             O worried
   O tiny             O worthy

Adapted from Silver Burdett & Ginn, Spelling Connection, 1989.