THE IMPACT OF WORD STUDY ON
FIRST-GRADE CHILDREN'S ABILITY
TO SPELL AND WRITE

MASTER'S THESIS

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by

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CHAPTER I  
INTRODUCTION

This chapter will be presented in the following sequence: (a) background of the problem, (b) problem statement, (c) hypothesis, (d) definition of terms, (e) assumptions, (f) limitations.

Background of the Problem

There has been much controversy pertaining to the relationship between spelling, reading, and writing. Some educators believe that children should be taught individual sounds or phonemes while others feel that teaching words as a whole is more beneficial to instruction. However, most will agree that phonemic awareness effects the reading, spelling, and writing ability of elementary school students. Chall’s book started a debate over code or meaning based instruction. Chall (1983) found the following:

On the issue of code- versus meaning-emphasis, I concluded in The Great Debate that...the code-emphasis programs produced the better results, at least through Grade 3,...I recommended a change from a meaning- to a code-emphasis for beginning reading instruction. By 1977, ten years later, the amount of phonics included in most commercially published reading programs increased considerably” (p. 3).

Recent studies have been conducted to determine the best method of phonics instruction (Ball & Blachman, 1991; McGuinness, McGuinness, & Donohue, 1995; McIntyre & Freppon, 1994; 1992; Snider, 1990; Torgeson, Morgan, & Davis, 1992). These researchers have concluded that students who receive phonemic awareness instruction produce higher reading levels than children instructed with other methods. Some educators call themselves strictly literature-based or whole language teachers. However, they have been observed to include phonics instruction in their teaching
methods (McGuinness, McGuinness, & Donohue, 1995; McIntyre & Freppon, 1994). Explicit phonics instruction has proven to be superior over language experiences with or without phonics instruction (Ball & Blachman, 1991; Torgeson, Morgan, & Davis, 1992). Research indicates that a relationship between phonemic awareness and reading achievement exists (Brooks, 1993; Cunningham, 1990; Foorman, Francis, Novy, & Liberman, 1991; Hurford & Sanders, 1990; Spector, 1992; Stahl & Murray, 1994). A question remains: What part does phonemic awareness play in the reading acquisition of reading disabled students? These children have average or above intelligence, but low reading skills. Research has found that disabled students have low phonemic awareness. In addition, it is recommended for them to be identified early so phonics intervention may take place (Hatcher, Hulme, & Ellis, 1994; Hurford, 1990; Hurford, et. al., 1993).

Word study is described as a contemporary phonics approach by Stahl, Duffy-Hester, & Stahl (1998). Children sort words into their common orthographies. The authors report that word sorting is adaptable and should be used with what a student is confusing. Several studies have been conducted on word sorting (Invernizzi, Juel, & Rosemary, 1997; Morris, Ervin, & Conrad, 1996; Invernizzi, Abouzeid, & Gill, 1994). These researchers have found it to be effective as a tutoring program, working with learning disabled students, and in spelling instruction. Bloodgood (1991) describes Homophone Rummy, Word Concentration, and Infected-Ending Go Fish. Hodges (1991) explains activities involving words taken from everyday print.

The researcher in this study intends to try an approach to teaching spelling/writing which has not been used by her before. The author wants to determine if word sorting is an effective method of teaching spelling and enhancing writing.
Problem Statement

The purpose of this study was to determine if word sorting would positively effect the spelling and writing of first-graders in a rural elementary school.

Hypotheses

Word sorting will positively impact the spelling of first-graders.
Word study will positively impact the writing ability of first-graders.

Definition of Terms

Average readers have average reading and intellectual capabilities (defined by researcher).

Closed sorts are word sorts where, "...teachers define the categories and model the sorting procedure before the students sort" (Bear, Invernizzi, Templeton, and Johnston, 1996, p. 72).

Open Sorts are word sorts where, "...students create the categories with the packs of known words" (Bear, Invernizzi, Templeton, and Johnston, 1996, p. 73).

Phonemic awareness refers to, "...the ability to explicitly manipulate speech segments at the phoneme level" (Cunningham, 1990, p. 429).

Phonemes are, "...those small units of sound that roughly correspond to individual letters" (Snider, 1997, p. 203).

Poor readers, "...have below-average reading and intellectual skills" (Hurford, et. al., 1993, p. 167).

Reading disabled students, "... have below-average reading skills but at least average intellectual skills" (Hurford, et. al., 1993, p. 167).

Word study is where, "students examine words and word patterns through strategies such as sorting, in which students categorize words and pictures according to their common orthographic features" (Stahl, et. al.,1998, p. 346).

Assumptions
Two qualitative measures (Bear, Invernizzi, Templeton, & Johnston, 1996) were administered to children to assess their spelling skills. A spelling-by-stage checklist and a spelling inventory were used. The words were selected by (Bear, et. al., 1996) for their orthographic features and frequency of occurrence. These assessments have been found by researchers to be reliable and valid. The administrator utilized the assessments uniformly (see Appendixes A and B).

Limitations
The researcher faced the following limitations in conducting the study:
The investigator could not generalize that word sorting is the only cause of change in the spelling and writing of the students.
The author could not generalize that word sorting is superior to other methods.
The results are not generalized to the whole population.
Student progress was be impacted by maturation.
CHAPTER II
REVIEW OF LITERATURE

Literature pertaining to this research will be reviewed as follows: (a) phonics instruction versus other approaches, (b) relationship between phonemic awareness and reading achievement, (c) phonemic awareness of reading disabled children, (d) word study: relationship to writing and spelling.

Phonics Instruction Versus Other Approaches

Research by Torgesen, Morgan, and Davis (1992) compared two phonological training groups to a literature-based experience group. 143 kindergarten students from working class families were screened for the study. First they were given the Screening Test of Phonological Awareness in small groups. 51 students were chosen from their STOPA scores, teacher input, and parental permission. These children were given pretests measuring segmentation, blending, alphabet knowledge, and verbal ability. The students were divided into clusters of 17 students, matched by vocabulary and age. The first experimental group received phonological training in analysis and synthesis, the second group in blending only, and the control group had language-experiences. In addition, there were 20 minute sessions with a trainer in a small groups three times a week. At the conclusion of the research each group received post tests on reading analogue, segmentation, and blending. Findings show that the group with analysis and synthesis learned new words faster than the others. They also needed fewer trials to learn the words and made less errors.

Ball and Blachman (1991) developed a project to determine the role of phonemic instruction and letter names in kindergarten reading and spelling. In Syracuse, New York students were chosen from six kindergarten classrooms. Some of the students did not participate if they were determined to be readers by their teachers, scored a three on the Woodcock Reading Mastery Word Identification Sub
test, or were 1.5 below the mean on the Peabody Picture Vocabulary test. In addition, pretests and post tests were phoneme segmentation, letter names, and letter sounds. Next, three groups were formed; a phoneme awareness training group, language activities group, and a control. The phoneme awareness cluster received 20 minute segmentation training, the language activities group had 20 minute language experience activities, and the control had only their regular classroom instruction. The phoneme segmentation group was superior in reading and spelling. They also read more words on the Woodcock than the others.

Snider (1990) found that direct instruction is an effective method for teaching phonics. She examined two groups of first-graders from a predominantly White parochial school. The control group consisted of two classes of children who received phonics lessons in a basal while the experimental students used the basal as a supplement to the direct instruction program. Each group had 30 minute reading lessons in the morning with the teacher and 30 minute afternoon independent time. In the Fall of second-grade, the students were administered the Iowa Test of Basic Skills. Children in the direct instruction group scored significantly higher in word analysis and spelling. However, they did as well as the control on the reading sub test. This supports highly structured phonics instruction. A limitation was the lack of random assignment to each group.

McIntyre and Freppon (1994) developed a case study over the course of two years. Six low-income, urban students were chosen from their whole language or skills-based classrooms. They all qualified for free or reduced lunches. The whole language and skills-based classrooms observed all initiated explicit phonics instruction. Literacy was measured at the beginning of kindergarten and first-grade based on written knowledge, story structure knowledge, written narratives, alphabetic principle, writing reflection, and concepts about print. The selected children could not
read at the start of kindergarten, but all did at the end of first-grade. In addition, all of the children had the same reading acquisition no matter what kind of instruction was implemented, as long as they had some code instruction.

McGuinness, McGuinness, and Donohue (1995) investigated phonics. A first-grade experimental group came from a Montessori school containing 15 children. Another experimental group from a private school had 15 students. The control group with 15 also came from the private school. Each cluster had a phonics oriented teacher, above average verbal skills, and the same prior experiences with letter names and sounds. The two experimental instructors were trained in the Auditory Discrimination in Depth method of teaching phonics. However, the control teacher used a whole language approach which also had phonics instruction. The students were tested on reading comprehension, vocabulary, word attack, and rhyming and non rhyming skills three times throughout the school year. The experimental groups increased their reading skills more than expected. They also performed higher than the control on word identification and word attack.

Relationship Between Phonemic Awareness and Reading Achievement

Cunningham (1990) analyzed how phonemic awareness instruction effects reading ability. In addition, she sought to determine what types of activities effect the ability to gain phonemic awareness. In a Midwest suburban area, 48 kindergartners and 48 first-graders were given the Metropolitan Achievement Test. 42 children of each grade participated in the research and were placed either in a control or two experimental groups. Pretests and post tests consisting of achievement, aptitude, and phonemic awareness were given in the Fall and Spring. The treatment lasted ten weeks consisting of small group instruction twice each week. During these lessons, the two experimental groups were instructed in blending and segmentation out of context. However, the control instructor initiated talks about why phonemic awareness
aided in reading acquisition and fostered self-reflection. Results indicated that training in each group produced a significant impact on both grades reading progress. However, on the three phonemic awareness tasks the experimental groups scored significantly higher. There was also a stronger correlation between reading achievement and phonemic awareness in the experimental groups who outperformed the control on the Metropolitan Achievement Test.

Spector (1992) also found a correlation between a phonics measure and reading ability. She found that a dynamic phonics approach developed by herself was a better predictor of reading progress than static phonics measures. Her research had 52 predominantly White, middle-class kindergartners. In the Fall they were given the San Diego Quick Assessment List. Those chosen were 38 children, with a mean age of 5 years 11 months, who could not read any of the words. They were given a sight word list, the Peabody Picture Vocabulary Test-revised for vocabulary and verbal ability, invented spelling measures, phoneme deletion tasks, and dynamic phoneme segmentation tasks. These assessments were given in the Spring and Fall. However, Spector’s task of dynamic phoneme segmentation was only measured in the Fall. The results indicated that students improved on all of the phonemic awareness activities and word recognition. In addition, dynamic phoneme segmentation had the highest correlation with reading and word recognition than any of the other phonics measures. Spring phonics scores also had a higher correlation to the reading scores than phonics scores in the Fall.

Stahl and Murray (1994) studied 113 kindergarten and first-grade children. They also found a relationship between phonological awareness and early literacy. In a small city, half the students attended a Catholic school and the others went to a public school. The public school children were 50% African American while the private school students were predominantly white. Researchers gave four
treatment. 13 students in the treatment group had vowel, consonant vowel, and syllable instruction. Analyses showed that there was no difference in performance between the two groups before the intervention, however there was a difference at the conclusion. The disabled experimental group improved significantly in phonics tasks and were similar to the children without reading disability.

Hurford (1990) conducted a similar research project. 27 second-graders and 21 third-graders from middle class families were involved in the experimental group. 32 had reading disabilities and 16 did not. The reading disabled students had average IQs but low reading ability. A control group was formed matching the experimental group. No significant differences were found between them on age, reading, or phonemic segmentation. The experimental children were administered phonemic segmentation and discrimination tasks. Cards were used to make sure the students understood the discrimination task prior to testing. They identified consonant vowel clusters as the same or different. Next, students received training on a computer with a consonant vowel pair followed by another pair. The children pressed one key if the pairs were the same or another if they were different. At the conclusion of the training, the participants were given the phonemic segmentation task again with different words. Results convey that, "...trained children with reading disabilities significantly improved their phonemic segmentation performance from assessment to post testing" (566). However, they still performed significantly below that of non disabled readers. The control group showed no improvement.

Phonics intervention was found to be beneficial in a similar study. Hatcher, Hulme, and Ellis (1994) conducted a project concerning the early interventions of children who are struggling to read. They wanted to find out if phonological training and reading instruction combined was a better intervention than either method alone. 189 seven year old children from the Cumbria Education Authority in British Columbia
were chosen based on the Carver test, which identified them as having a reading quotient below 89. 125 children were given nineteen exams to measure phonics skills, reading, intellect, spelling, and math. Three matched groups were formed; phonics, reading, and reading with phonics. The students were instructed over 20 weeks in small groups for 40 one-half hour sessions. Various post tests were given to measure reading, spelling, and phonics. The findings were that the reading and phonics group improved more in reading than the others. It is the opinion of the researchers that adequate linkage between reading and phonics is necessary.

Hurford, et. al. (1993) explored reading and phonics skills of 209 first-graders at the beginning and end of school. The researchers wanted to determine if reading groups could be anticipated by intelligence, phonological awareness, and reading tests given at the start of school. In addition, they wished to compare phonics and reading scores of poor readers with those of students with reading disabilities. Pretests and post tests were administered on phonological processing, reading ability, and intellect. Children were assigned to one of three reading groups based on their late Spring test results. These were reading disabled, poor readers, and average readers. The findings show that the gap in scores between children with reading disabilities and average readers widens. In addition, poor readers and learning disabled scored much lower than the other children, but did make improvements. Researchers concluded that children at risk need to be identified early so they may be able to narrow the gap.

Snider (1997) conducted a quantitative and qualitative study with comparable results. In a rural district, seventy-three kindergartners participated by consent. Thirty-six boys and thirty-seven girls with a mean age of six years, six months participated. First, they were given a test of phonemic awareness developed by the author which assessed phoneme segmentation, strip initial consonant, substitute initial consonant,
rhyme oddity, and initial consonant same. In second-grade the public school students were given the Iowa Test of Basic Skills and private school students (some from the original sample had moved) were administered the California Achievement Test.

Findings indicate that strip initial consonant, substitute initial consonant, and phonemic segmentation were predictors of reading. Students who scored well on the phoneme test had higher means than the other students. Low scorers could only finish the rhyme oddity portion and could not complete the more difficult sub tests. However, several of the lower scoring students in kindergarten did not take the test in second grade. Therefore, the author decided to do another study of the lower quartile students when they reached third-grade.

Twelve children were asked questions to assess their attitudes towards school and reading. They also read from a third-grade text. Their attitudes were found to be positive. Students who had the worst attitudes were not in special education classes. In addition, the lowest reading child said his favorite subject was reading. Accuracy and rate of speed in reading were presented in a table.

Word Study: A Contemporary Approach

There are numerous articles describing word study. They detail activities and games for children. Bear, Invernizzi, Templeton, and Johnston (1996) describe word study in their book entitled, "Words Their Way", "...students match words or pictures to specific key words..." (p. 66). In chapter four (p. 66), they describe word study in detail. Word sorting is a type of word study in which printed words on cards are utilized. The first step is for the teacher to model the sort. Once this is done, it will not be necessary to model prior to each sort. Next, students sort word cards into categories based on their likenesses. An example of a sort would be words with short "e" and words with long "e". The authors believe that word sorts should match the spelling levels of the students. Therefore, they also describe various sorting activities.
These are organized into chapters for each developmental spelling stage. They progress from preliterate to derivational constancy (see Appendix A). Stahl, Duffy-Hester, and Stahl (1998) also describe word study. They believe educators should, "... base instruction on word features that students are writing but are confusing" (p. 346). The researchers report that word study has been proven to effect reading and writing.

Gillett and Kita (1978) describes word study and related activities. The authors note that words may be sorted by, "shared letters, similarities in letter sounds, structural elements, grammatical functions, or related meaning" (p. 539). They define closed and open sorts. In a closed sort, the categories are revealed to the students prior to beginning, and an open sort leads to children discovering the categories. In addition, the writers describe tic-tac-toe and concentration. Tic-tac-toe is played with a paper divided into nine three by three squares. A word card is put on each section. Eight words and markers are passed to every student. They make categories with words on the board and their own cards. When this is done, a marker is placed on the appropriate place on the board. In concentration, 16 cards are arranged face down. Children pick out two cards and try to categorize them. Bloodgood (1991) describes Word Concentration, Homophone Rummy, and Inflected-Ending Go Fish. She believes that these activities will allow spelling to be more meaningful than memorized lists. In addition, she notes that, "As word concepts become internalized and automatic, they will appear in correct spelling and become incorporated in spelling" (p. 208). Hodges (1991) suggests picking words from the students' writing or reading, finding a classroom item starting with each letter of the alphabet, making anagrams, scrambling familiar words on the board and having students unscramble them, and students listing smaller words in big words as they read and write.

There are studies documenting word sorting as a valuable teaching tool. Invernizzi, Juel, and Rosemary (1997) describe a successful tutorial program involving
word study. The Reading Center of the University of Virginia, volunteers from the Charlottesville community, and the Charlottesville Schools have formed a successful partnership for first grade intervention. The program is funded by schools, grants, and donations. There are 15 tutors each under a reading coordinator. Every tutor has two hour training three times a year with the authors of this article. Also, lesson plans and support are given by the reading coordinator of the school. Lessons are 45 minutes long twice a week. Each consists of word study, writing, and reading familiar and unfamiliar books. In word study children compare and contrast pictures and words by their common features. Pretests and post tests are given annually. These consist of word recognition, alphabet recognition, phonemic awareness, concept of word, the Diagnostic Survey, Wide Range Achievement test, and the reading of Little Bear by Minarik. Students with the most tutoring and lowest pretest scores outperform higher students with less sessions in reading, phonemic awareness, and word recognition. Children are expected to read Little Bear with 90% accuracy. By the third year, 86% of children were meeting this requirement.

Morris, Ervin, and Conrad (1996) have a program for working with disabled students. The program starts with a one hour parent interview allowing the researchers to familiarize themselves with the child’s situation. Next, an informal reading assessment is given to determine the appropriate beginning reading level of the student. Lastly, tutoring takes place twice a week with the individual child. A case study is presented about a learning disabled sixth-grade boy named Brett. He was diagnosed with dyslexia in second grade. Brett scored on a second-grade level in spelling, reading, and word recognition. He began a four week reading program. A first-grade teacher began to work with him twice a week for an hour and increased to four weekly sessions. The lessons consisted of writing, guided reading, and word study. Writing was based on self-selected topics, reading was on a second-grade
CHAPTER III

PROCEDURE

The procedures utilized in this study are presented in the following sequence: (a) subjects/sampling procedure, (b) setting, (c) role of the researcher, (d) description of variables, (e) data collection.

The purpose of this study was to determine if word sorting would positively effect the spelling and writing of first-graders in a rural elementary school.

Subjects

Eighteen first-grade children participated in this study. Eight children were boys and ten were girls. All of the children were Caucasian. One student worked with the speech therapist twice a week. Two students (who were in a transitional first-grade classroom the previous year) were referred by the Intervention Assistance Team for testing due to the possibility of a learning disability. Three children were chosen by their teacher and parents for retention in the upcoming school year.

Setting

The elementary school in which this study took place is located in a rural school district and has approximately 725 students. The majority of students are Caucasian. Children attend the school from kindergarten to fifth-grade. The socioeconomic status of the population is middle and lower class. The community is growing rapidly.

Role of Researcher

The researcher was a teacher/researcher. She implemented the program and collected the data. She has taught first-grade at this district for five years.

Description of Variables

The dependent variables were spelling and writing while the independent variable was word sorting. The researcher determined if the word sorting approach to
phonics instruction impacted the spelling and writing of her first-grade students.

Data Collection

Two qualitative pretests and post tests involving spelling were administered to the students. The first was a spelling inventory used to determine each subject's spelling level prior to the study. The Elementary Qualitative Spelling Inventory Spelling-By-Stage Assessment (Bear, Invernizzi, Templeton, & Johnston, 1996, p. 38) was administered in small groups of seven or eight students. There were five sets of words containing five words each. The words progressed from easy to difficult. Students were given the following directions:

"I am going to ask you to spell some words, Try to spell them the best you can. Some of the words will be easy to spell; some will be more difficult. When you do not know how to spell a word, spell it the best you can; write down all the sounds you feel and hear."

When a child missed three words out of five, he/she was not asked to spell the next word. The test was also administered at the conclusion of the study (refer to Appendix A).

The next assessment was a qualitative spelling checklist (Bear, et. al., 1996, p. 44). The spelling inventory was used in conjunction with this checklist to determine each child's spelling stage. The checklist had six levels ranging from preliterate to derivational constancy. Each level contained descriptors. The researcher placed a check mark by yes, often, or no for each descriptor. The student progressed from yes, to often, to no. The last often checked was the child's spelling level. There was also a 15 point scale which was used to determine the level more precisely within the descriptors. (refer to Appendix B).

Writing from each student's journal was copied and analyzed. Prior to the study, four pieces of writing (a week's worth) were collected to determine each
student's beginning writing level (see Appendix C). These were be kept for the duration of the study. Once a week for the next sixteen weeks, additional writing samples were randomly selected to be analyzed. This enabled the researcher to track each student's writing progress throughout the study. The author was able to determine the subjects' instructional needs from the writing samples. Lastly, a week's worth of writing was collected at the conclusion of the study to determine each student's ending writing level (see Appendix C).

The treatment of the study took place daily for sixteen weeks. Each lesson took 15 to 20 minutes at the same time each afternoon. As a whole group, children sorted words according to their common orthographies. The sorts evolved with the needs of the students. Closed word sorts were created by the researcher progressing from initial consonants, final consonants, short vowels, long vowels, blends, digraphs, endings, and contractions. Sorts were also initiated by the author towards the end of the study based on the students need to review. A paper was passed to each student with two or three boxes at the top each containing a word family. First, students were told what the families were and how to sort. Next, an auditory sort took place. I said six words and the students were instructed to place a teddy bear on the correct box of the word's family. If two categories were used, three words for each were read; while three categories had two words each. The researcher took note of students who had difficulty and intervened when necessary. Next, children received the words randomly placed on paper. Subjects were instructed to cut the paper into cards and place each word under its' correct family. Interventions took place by the researcher as needed. Next, students were asked to read the words as a whole group. Lastly, subjects removed the words and spelled each under its' category as the researcher read each one randomly (see Appendix D).
The results of this study are presented in the following sequence: (a) presentation of the results, (b) discussion of the results.

CHAPTER IV
RESULTS

Presentation of the Results

The author used two qualitative spelling measures to determine each child's pretreatment and post treatment spelling stage. Table 1 shows the pretreatment data from the Spelling by Stage Scale. Table 2 depicts post treatment data from the Spelling by Stage Scale (see Appendix B).

Table 1
Frequency Distribution of Pretreatment Spelling Levels

<table>
<thead>
<tr>
<th>Intervals</th>
<th>F</th>
<th>Cum F</th>
<th>Percent</th>
<th>Cum Percent</th>
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<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>18</td>
<td>11.1</td>
<td>100</td>
</tr>
<tr>
<td>2-3</td>
<td>2</td>
<td>16</td>
<td>11.1</td>
<td>88.9</td>
</tr>
<tr>
<td>4-6</td>
<td>13</td>
<td>14</td>
<td>72.2</td>
<td>77.8</td>
</tr>
<tr>
<td>7-9</td>
<td>1</td>
<td>1</td>
<td>5.6</td>
<td>5.6</td>
</tr>
<tr>
<td>10-12</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>13-15</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Mean=3.8</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. 1=Preliterate, 2-3=Early Letter Name, 4-6=Letter Name, 7-8=Within Word Pattern, 10-12=Syllable Juncture, 13-15=Derivational Constancy.

Subjects=18; F=Frequency; Cum F= Cumulative Frequency; Percent=Percent Frequency; Cum Percent= Cumulative Percent
Table 2

Frequency Distribution of Post Treatment Spelling Levels

<table>
<thead>
<tr>
<th>Intervals</th>
<th>F</th>
<th>Cum F</th>
<th>Percent</th>
<th>Cum Percent</th>
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</thead>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
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<td>2-3</td>
<td>2</td>
<td>18</td>
<td>11.1</td>
<td>100</td>
</tr>
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<td>4-6</td>
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<td>22.2</td>
<td>88.9</td>
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<td>7-9</td>
<td>12</td>
<td>12</td>
<td>66.7</td>
<td>66.7</td>
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<tr>
<td>10-12</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>13-15</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Mean=6.3</td>
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</tbody>
</table>

Note. 1=Preliterate, 2-3=Early Letter Name, 4-6=Letter Name, 7-8=Within Word Pattern, 10-12=Syllable Juncture, 13-15=Derivational Constancy.

Subjects=18; F=Frequency; Cum F= Cumulative Frequency; Percent=Percent Frequency; Cum Percent= Cumulative Percent

The author also determined each child's developmental writing level pretreatment and post treatment (see Appendix C). The levels are as follows: 1-3=Emergent Writer, 4-5=Early Writer, 6-8= Fluent Writer. Table 3 shows pretreatment data and Table 4 depicts post treatment data.
Table 3

Frequency Distribution of Pretreatment Writing Levels

<table>
<thead>
<tr>
<th>Intervals</th>
<th>F</th>
<th>Cum F</th>
<th>Percent</th>
<th>Cum Percent</th>
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</thead>
<tbody>
<tr>
<td>1-3</td>
<td>6</td>
<td>18</td>
<td>33.3</td>
<td>100</td>
</tr>
<tr>
<td>4-5</td>
<td>12</td>
<td>12</td>
<td>66.7</td>
<td>66.7</td>
</tr>
<tr>
<td>6-8</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Mean</td>
<td>3.8</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

Note. 1=Preliterate, 2-3=Early Letter Name, 4-6=Letter Name, 7-8=Within Word Pattern, 10-12=Syllable Juncture, 13-15=Derivational Constancy.

Subjects=18; F=Frequency; Cum F= Cumulative Frequency; Percent=Percent Frequency; Cum Percent= Cumulative Percent

Table 4

Frequency Distribution of Post Treatment Writing Levels

<table>
<thead>
<tr>
<th>Intervals</th>
<th>F</th>
<th>Cum F</th>
<th>Percent</th>
<th>Cum Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-3</td>
<td>3</td>
<td>18</td>
<td>16.7</td>
<td>100</td>
</tr>
<tr>
<td>4-5</td>
<td>11</td>
<td>15</td>
<td>61.1</td>
<td>83.3</td>
</tr>
<tr>
<td>6-8</td>
<td>4</td>
<td>3</td>
<td>22.2</td>
<td>22.2</td>
</tr>
<tr>
<td>Mean</td>
<td>4.7</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

Note. 1=Preliterate, 2-3=Early Letter Name, 4-6=Letter Name, 7-8=Within Word Pattern, 10-12=Syllable Juncture, 13-15=Derivational Constancy.

Subjects=18; F=Frequency; Cum F= Cumulative Frequency; Percent=Percent Frequency; Cum Percent= Cumulative Percent
Figure 1 shows a bar graph that compares the number of students at each level in the spelling scale prior to and at the conclusion of the study. Table 1 and Table 2 contain the data used to create Figure 1.

Figure 1

![Bar graph showing Spelling Levels Pretest and Post Test Comparison](image)

**Note.** 0-1=Preliterate; 2-3=Early Letter Name; 7-9=Within Word Pattern; 10-12=Syllable Juncture; 13-15=Derivational Constancy

Figure 2 is a bar graph showing the mean spelling scores prior to and at the conclusion of the study. Tables 1 and 2 contain the data used to create Figure 2.
Figure 3 shows a bar graph that compares the number of students at each level in the writing scale prior to and at the conclusion of the study. Table 3 and Table 4 contain the data used to create figure 3.

Note. 1-3=Emergent Writer; 4-5=Early Writer; 6-8=Fluent Writer.
Figure 4 is a bar graph showing the mean writing scores prior to and at the conclusion of the study. Tables 3 and 4 contain the data used to create figure 1.

Discussion of the Results

The results of the data collected show that most students had a higher spelling level after word sorting was initiated. The mean score in spelling prior to the treatment was 3.8 and at the conclusion 6.3. This data indicates a 2.5 increase in means. The standard deviations were 2.63 pretreatment and 4.31 post treatment. As tables 1 and 2 indicate, there were two students at interval 1 in the pretreatment and no students at this interval post treatment. In addition, 13 students were at interval 4-6 pretreatment and only four post treatment. 11 of these subjects moved up to interval 7-9.

All students had a higher level of writing after the treatment. The beginning mean was 3.8 and the post mean was 4.7. Students gained .9. The standard deviations were .62 pretreatment and 1.0 post treatment. As tables 3 and 4 indicate, six students were at interval 1-3 pretreatment and only three post treatment. There
were also no students at interval 6-8 pretreatment and four moved there post
treatment. From this data, the author concluded that the use of word sorting as a
teaching method may contribute to a higher level of spelling and writing for most
students.

The author agrees with current research concluding that phonics instruction is
superior to other methods. Ball and Blachman (1991) conducted a study with three
different approaches to instruction. A phoneme awareness group, language activities
group, and a control each had 20 minute lessons. The control had regular classroom
instruction, the phoneme awareness group had segmentation training, and the
language experience group had language experience activities. The phoneme
awareness students were superior in reading and spelling. Snider (1990) examined
two groups of first-graders. One had phonics lessons in a basal while the other was
instructed with direct instruction. The direct instruction group outperformed the control
in spelling. These findings indicate that traditional classroom instruction is not always
the best method. The author believes that teachers need to be flexible in attempting
new methods.

Phonics has been found to be an integral part of reading and spelling
instruction. Phonemic awareness and reading ability have been found to correlate
and phonics has been found to predict later success in reading. Students in the
author's study read words and sorted them into their common orthographies. This
combined reading and phonics adequately. Hatcher, Hulme and Ellis (1994)
examined seven year old children instructed with phonics alone, reading and phonics,
and reading alone. They found the phonological training plus reading instruction
group to be superior in reading. Foorman, Francis, Novy, and Liberman (1991)
conducted research with first-graders to find out if more letter-sound instruction aids in
reading and spelling progress. Results were that the more letter sound group greatly
improved on reading exception words and regular words, made less non-phonetic errors, and performed better in reading and spelling. In addition, phonics scores in October predicted reading scores.

Word sorting may have contributed to higher spelling levels. As Morris, Ervin, and Conrad (1996) also found, lessons in word sorting lead to improvements in spelling. A student in their study was four grade levels behind in spelling. After word sorting was initiated, he gained two grade levels. The researcher believes these results in addition to her own were largely due to the active involvement students have in word sorting. Bloodgood (1991) notes that, "As word concepts become internalized and automatic, they will appear in correct spelling and become incorporated in spelling" (p. 208).

Word sorting may have led to improvement in writing levels. Collecting writing samples was an important component of this study. The samples allowed the researcher to determine the needs of her students. Sorts were created weekly. Towards the conclusion of the study, the author ascertained a need to review based on student writing. Subjects were confusing short and long vowel sounds. Therefore, additional sorts were initiated. Invernizzi, Abouzeid, and Gill (1994) argue that teachers need to be aware of each student's spelling level in order to provide the best instruction. Bear, Invernizzi, Templeton, and Johnston (1996) have similar beliefs. They think sorts should focus on what students confuse. Their book is arranged on this premise. They provide suggestions for activities at various writing levels. All of the students in this study showed improved writing scores.

The researcher has presented and discussed the results of the data collected. The author has provided several reasons why students had a higher spelling level and a higher writing level after word sorting was initiated. The researcher compared the levels prior to and at the conclusion of the study in addition to comparing means. The
investigator also presented increases between intervals in writing and spelling.
This chapter will be presented in the following sequence: (a) summary, (b) conclusions, (c) recommendations

CHAPTER V
SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary
Learning to be a fluent writer and adequate speller are important skills for a student to acquire. These are difficult to teach and even more difficult for a teacher to know the best way of doing so. The task is easier when the teacher is flexible and willing to try a new technique which actively engages students.

Phonemic awareness has been shown to be related to reading and a predictor of reading success. It is important for students to acquire early in their schooling. The use of traditional phonics programs may not work for all students. In a traditional phonics basal all students work on the same skills at the same time. How a student progresses through instruction is preset. These may teach a skill which a child is not ready to learn, or has already mastered. The goal of word sorting is to focus on phonics skills a student confuses in his/her writing and spelling.

The purpose of this study was to determine if word sorting would positively effect the spelling and writing of first-graders in a rural elementary school.

The author used two qualitative spelling measures to determine each child’s spelling level. Writing was also assessed qualitatively utilizing the Writing Developmental Continuum. The researcher administered the assessments twice, once prior to the study and once at the conclusion of the study.

Word sorts were utilized daily for sixteen weeks. First, word families were identified as a class. Next, an auditory sort took place. The author said each word as the students placed a teddy bear on the correct family. Paper was passed with words for each category. Students cut the paper into cards and placed each under its’
correct category. The words were read as a group. Next, word cards were taken away. Lastly, the teacher said each word as student spelled them under the correct category. Writing samples were photocopied from student journals once a week.

The results of data collected showed most students improved in spelling and all improved in writing. The mean score in spelling levels pretreatment was 3.8 and post treatment 6.3. Students gained 2.5. The mean score in writing levels increased from a 3.8 to 4.7. Students gained .9. Greater gains were made in spelling than writing.

Students also increased in spelling and writing levels as a class. In spelling, there was only one student in the Within Word Pattern Stage prior to treatment and 12 students in that stage at the conclusion. Also in writing there were no students in the Fluent Writer Stage Pretreatment and four were in that level post treatment.

Conclusions

The researcher concluded that the use of word sorting in phonics instruction may contribute to higher spelling levels.

The researcher concluded that the use of word sorting in phonics instruction may contribute to higher writing levels.

The researcher concluded that analyzing student writing is an adequate way to determine word sorting needs.

The researcher concluded that word study actively involves students in phonics instruction.

Recommendations

The researcher recommends that teachers be flexible and willing to try new approaches to teaching. Word study is an adequate instructional method for teaching spelling, writing, and phonics. Word sorting should replace or enhance traditional methods. Teachers can adapt word sorts to fit each child's individual needs. Word sorts actively engage students as they categorize words. As a result, word sorting is
more meaningful to children. The use of word sorting leads to improvements in spelling and writing. In the future, the researcher would like to see more research about the positive impact of word sorting on childrens' learning. The author also wishes to analyze students' weekly writing samples to determine how writing skills developed in relationship to daily word sorts. In addition, the author would like to investigate the impact word sorting has on phonemic awareness. The researcher believes a similar study could be initiated with a traditional phonics group as a control and a word sorting group as a treatment.
APPENDIX A

Elementary Qualitative Spelling Inventory Spelling-by-Stage Assessment

This is a short spelling inventory to help you learn about your students' orthographic knowledge. The results of the spelling inventories will have implications for reading, writing, vocabulary, and spelling instruction.

INSTRUCTIONS: Let the students know that you are administering this inventory to learn about how they spell. Let them know that this is not a test, but that they will be helping you be a better teacher by doing their best.

SCRIPT: "I am going to ask you to spell some words. Try to spell them the best you can. Some of the words will be easy to spell; some will be more difficult. When you do not know how to spell a word, spell it the best you can; write down all the sounds you feel and hear."

Say the word once, read the sentence and then say the word again. Work with groups of 5 words. You want to stop testing when students miss 3 out of 5 words.

Set One
1. bed  I hopped out of bed this morning. bed
2. ship The ship sailed around the island. ship
3. drive I learned to drive a car. drive
4. bump That is quite a bump you have on your head. bump
5. when When will you come back? when

Set Two
6. train I rode the train to the next town. train
7. closet I put the clothes in the closet. closet
8. chase We can play run and chase with the cats. chase
9. float I can float on the water with my new raft. float
10. beaches The sandy beaches are crowded in the summer. beaches
Set Three

11. preparing I am preparing for the big game. preparing
12. popping We are popping popcorn to eat at the movies. popping
13. cattle The cowboy rounded up the cattle. cattle
14. caught I caught the ball. caught
15. inspection The soldiers polished their shoes for inspection.

Set Four

16. puncture I had a puncture in my bicycle tire. puncture
17. cellar I went down to the cellar for the can of paint. cellar
18. pleasure It was a pleasure to listen to the choir sing. pleasure
19. squirrel We found the tree where the squirrel lives. squirrel
20. fortunate It was fortunate that the driver had snow tires during the snowstorm. fortunate

Set Five

21. confident I am confident that we can win the game. confident
22. civilize They had the idea that they could civilize the forest people. civilize
23. flexible She was so flexible that she could cross her legs behind her head. flexible
24. opposition The coach said that the opposition would give us a tough game. opposition
25. emphasize In conclusion, I want to emphasize the most important points. emphasize

APPENDIX B

Qualitative Spelling Checklist

Student____________ Observer____________ Date____________

Consider the following progression, and note when certain features are observed in students’ spelling and writing. When a feature is always present check Yes. The last place where you check “Often” is the stage of spelling development to report. The numbers refer to the scale on the Spelling-by-Stage Assessment. How many words were spelled correctly? Report as percentage of total correct to total spelled:

THE NUMBERS BELOW REFER TO THE SPELLING-BY-STAGE SCALE (1-15).

<table>
<thead>
<tr>
<th>Preliterate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Marks on the page [ ]. Yes____Often____No____</td>
</tr>
<tr>
<td>Scribbling followed the conventional direction. Yes____Often____No____</td>
</tr>
<tr>
<td>Symbols or known letters represented in pretend writing. Yes____Often____No____</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Early Letter Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 Syllabic Writing. Key sounds are spelled [P for stop]. Yes____Often____No____</td>
</tr>
<tr>
<td>3 Beginning. Check Yes if ending sounds are included. Yes____Often____No____</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Letter Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 A vowel in each word. Yes____Often____No____</td>
</tr>
</tbody>
</table>

| 5 Consonant blends and digraphs in SHIP, DRIVE, and WHEN, TRAIN, CHASE, and FLOAT. Yes____Often____No____ |
| 6 Short vowels spelled correctly [BED, SHIP, WHEN]. Yes____Often____No____ |

<table>
<thead>
<tr>
<th>Within Word Patterns</th>
</tr>
</thead>
<tbody>
<tr>
<td>7 Uses but confuses long vowels [DRIEV, TRAIN, FLOTE, BEECHS] Yes____Often____No____</td>
</tr>
<tr>
<td>8 Spells many single syllable long vowels spelled correctly [DRIVE, TRAIN, FLOAT,</td>
</tr>
</tbody>
</table>
BEACHES] Yes____ Often____ No____

Still experiments with long vowel patterns [DRIEV, TRAIN, FLOTE, BEECHES]
Spells most consonant blends and digraphs correctly {SHIP, DRIVE, and WHEN
TRAIN, CHASE, and FLOAT]

9 Spells long vowels, consonant blends and digraphs, and low frequency consonant
blends and digraphs [CAUGHT] Yes____ Often____ No____

Syllable Juncture

10 Consonant doubling [POPPING, CATTLE, SQUIRREL, CELLAR] Yes____ Often____ No____

11 Plurals and other endings. [BEACHES, POPPING, PREPARING] Yes____ Often____ No____

12 Less frequent affixes.
suffixes [PUNCTURE, CELLAR, PLEASURE, FORTUNATE, CONFIDENT, CIVILIZE,
FLEXIBLE] Yes____ Often____ No____

prefixes [PREPARING, CONFIDENT, OPPOSITION] Yes____ Often____ No____

Derivational Constancy

13 Knowledge of derived spellings [PLEASURE, FORTUNATE] Yes____ Often____ No____

14 Knowledge of derived spellings [CONFIDE, CIVILIZE] Yes____ Often____ No____

15 Knowledge of derived spellings [OPPOSITION, EMPHASIZE] Yes____ Often____ No____

Note: Taken from Bear, et. al, (1996). Words Their Way: Word Study for Phonics,
Vocabulary, and Spelling Instruction., p. 44. Upper Saddle River, New Jersey: Simon &
Schuster.
APPENDIX C
Developmental Writing Continuum

Emergent Writer

Pattern I
Draws a picture only (name does not count).
Random scribbling.
Picture and Scribbling.

Pattern II
Uses own drawing to tell a story.
Dictates a message (word, label, or thought) about the drawing.
Attempts written symbols. May use circles, shapes, squiggles, or more controlled lines to write the story.

Pattern III
Draws a picture.
Begins to dictate a complete sentence in direct relationship to the picture.
May use strings of numbers and letters from name, especially those in own name.
May copy words from the environment.
May know the direction in which print goes.

Early Writer

Pattern IV
Draws elaborate pictures.
Dictates complete sentences or a story in direct relationship to the picture.
Labels in direct relationship to a picture.
Begins to connect letters and sounds (begins to attempt temporary spelling).
May use high frequency words.
Knows the direction that print goes.

Pattern V

Writes complete thoughts in sentence form.

Sentences may be short, simple, and repetitious.

Represents most dominant consonants and some vowels in words (temporary spelling is evident).

Some use of high frequency words.

Spacing between words is evident.

Fluent Writer

Pattern VI

Begins to vary sentence patterns or lengths.

Represents most sounds in words.

Uses logical temporary spelling.

Fluent use of high frequency words.

Begins to use capitalization and punctuation.

Pattern VII

Has a sense of story.

Some ideas focus on a topic.

Word choice in sentences may show evidence of literacy language and may attempt to use describing words.

Sentences are varied in patterns and lengths.

Spells some words conventionally.

Uses some capitalization and punctuation.

Pattern VIII

Story has a clear structure (beginning, middle, and end).

Most ideas focus on the topic.
Sentences are varied in patterns and lengths and include rich, descriptive language.

Uses conventional spelling most of the time.

Uses correct punctuation and capitalization most of the time.

Note: Taken from Clinton County, Ohio; Curriculum Director (1999).
APPENDIX D

Word Sort

Name____________________

[Three blank boxes]
REFERENCES


