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ABSTRACT
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spelling strategy instruction; and the implementation of activities to
promote spelling transfer in daily writing. Post intervention data indicated
an increase in students' use of effective spelling strategies and ability to
transfer their knowledge of spelling skills into daily writing. (Contains 33
references and 6 tables of data. Appendixes contain tests, survey
instruments, worksheets, checklists, and writing samples.) (Author/RS)

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IMPROVING STUDENT SPELLING
PERFORMANCE THROUGH THE USE OF
EFFECTIVE TEACHING STRATEGIES

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An Action Research Project Submitted to the Graduate Faculty of the

School of Education in Partial Fulfillment of the

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ABSTRACT

This report describes a program for instilling Spelling strategies in order to increase spelling transfer across the curriculum. The targeted population consisted of first and second grade students in two middle-class communities located in the western suburbs of a large metropolitan area. The problems of student's lacking spelling strategies and their inability to transfer their knowledge of spelling skills were documented through data revealing the large amount of students whose daily spelling is poor, despite appropriate achievement on spelling tests.

Analysis of probable cause data revealed that traditional spelling programs placed little emphasis on spelling proficiency across the curriculum. Additionally, the data indicated a lack of teacher's knowledge of effective spelling instruction, and the student's lack of skills and strategies.

A review of solution strategies combined with an analysis of the problem setting, resulted in the selection of two major categories of intervention: the implementation of effective spelling strategy instruction; and the implementation of activities to promote spelling transfer in daily writing.

Post intervention data indicated an increase in students' use of effective spelling strategies and ability to transfer their knowledge of spelling skills into daily writing.

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CHAPTER 1

PROBLEM STATEMENT AND CONTEXT

Problem Statement

The students of the targeted first and second grade classes exhibit poor spelling transfer when completing daily written assignments. Evidence for the existence of the problem includes creative story writing, journals, writing prompts, spelling assessments, and cross-curricular writing samples.

Local and Community Setting

The action research study takes place at two separate sites. Site A is an elementary school, within a unit district, in a far northwestern suburb of a major city which houses grades kindergarten through six. Site A has a total population of 765 students. The average class size is 25.5 students. The student population is comprised of 77.6% White, 2.5% Black, 14.0% Hispanic, 5.8% Asian/Pacific Islander, and 0.1% Native American. The socioeconomic status of the population is mainly middle-class with 12.7% of the students identified as low-income and 12.8% of the students having limited-English-proficiency. The attendance rate is 96.5% with student mobility at 13.9%.

Site B is located in a different district located in a western suburb of a major city and consists of two classes of each grade level kindergarten through fifth. Additionally, the school houses two learning disability classes in which the students are integrated in all the grades. The enrollment at site B is 249 students which is the

smallest student population in the district. The average class size is approximately 20 students. The student population is comprised of 85.6% White, 4.0% Black, 4.4% Hispanic and 6.0% Asian/Pacific Islander. The socioeconomic status of the population is mainly middle-class with 7.6% low-income and 4.8% limited English. The attendance rate is 96.4% with student mobility at 9.1%

The 1990 census reports that the median family income within Site A's community is $54,356. The median per capita income is $18,324. Ninety and two tenths percent of the adults are high school graduates and 28.4% are college graduates. In the community work force, the census reflected a total of 10,642 employed individuals out of the total population of 19,362. Thirty nine and five tenths percent are in technical, sales and administrative support, 32.2% are in managerial-professional, 9.8% are in production and repair, 9.8% are operators, fabricators, and laborers, 8% are in service occupations, 3.6% are unemployed, and .002% are in farming, forestry and fishing.

The community that encompasses Site A has a total of 6, 656 housing units according to the 1990 census. However, according to a special census taken in 1995, the number rose to 10, 647 making 1990 to 1995 the largest growth period with 38% of the housing being built then. According to the 1995 special census, 92.6% of available housing is owner occupied and 7.4% is renter occupied housing.

According to the 1990 census, the median family income within Site B's community is $50,848. The median per capita income is $18,281. Eighty-eight and thirteen percent of the adults are high school graduates and 22.26% are college graduates. In the community work force, the census reflected a total of 21,895 employed individuals out of the total population of 39,408. Thirty-eight and nine tenths percent are in technical, sales, and administrative support, 32.9% are in managerial-professional, 11.0% are production-repair, 9.4% are operators, fabricators and

laborers, 7.7% are service occupations, 3.1% are unemployed, and 0.1% are in farming-forestry.

The community that encompasses Site B has a total of 15,848 housing units. Seventy-three point one percent were built between 1940 and 1979 with the median year built 1965. Of the available housing, 69.4% is owner occupied housing, 25.6% is renter occupied housing, and 5.0% is condominium housing.

Site A is a building that is five years old. It houses 30 classrooms, including an Art and Music room. It also has a large learning center, a computer lab, multi-purpose room, six special service rooms, and a fieldhouse-sized gymnasium. Each classroom has a new computer equipped with Internet access. The building which houses Site B has been in existence for 33 years. In order to accommodate the growth in student population and to expand both services and educational programs, the building has been renovated on four occasions. Site B houses 13 classrooms, an all purpose room, a learning resource center complete with computer lab, a music room, and five special service rooms. Site B has recently developed a full-day kindergarten and established a K-1 cluster.

Total number of teachers in Site A's district is 1,529 with an average teaching experience of 16.2 years. Their racial/ ethnic breakdown is 89.3% White, 2.8% Black, 7.2% Hispanic, 0.7% Asian, and 0.1% Native American. There are 23.3% male teachers and 76.7% female teachers. Fifty-five and five tenths percent of the teachers have a Master's Degree and above. The average Teacher's Salary is $44,898 and the average administrator salary is $70,216. The operating expenditure per pupil in 1994-1995 was $5,088. Site B's district employs 184 teachers with an average teaching experience of 14 years. The Teacher's ethnic background is comprised of 98.6% White, 0.6% Black, and 0.8% Asian/Pacific Islander. There are 11.4% male and 88.6% female teachers. Fifty-two percent of the the teachers have a Masters

Degree or above. The average teacher salary is $47,431 and the average administrator salary is $86,215. The operating expenditure per pupil in 1994-95 was $6,262.

The majority of the students at Site A and B have met or exceeded the state goals on the Illinois Goal Assessment Program. Eighty-six percent of the third grade students at Site A met or exceeded the Reading goals, 100% met or exceeded the Math goals, and 91% met or exceeded the Writing goals. In fourth grade, 94% of the students met or exceeded the Science goals and 91% met or exceeded the Social Studies goals. At Site B, 90% of the third grade students met or exceeded the Reading goals, 100% met or exceeded the Math goals, and 97% met or exceeded the goals in Writing. In fourth grade, 100% of the students met or exceeded the goals in both Science and Social Studies.

The educational programs at both sites focus on Language Arts (Reading, Writing, and Spelling), Math, Science, Social Studies, Fine Arts, and Physical Education and Health. There are several different kinds of spelling programs at Site A as a result of curricular freedom. Most teachers teach from a spelling book in the upper grades. Specific to first grade classrooms however, the teachers utilize various instructional tools including: formulated lists, core word lists, lists developed from children's reading and writing, and word walls. The spelling curriculum at Site B varies within each grade level. In second grade, the students use a spelling book along with word lists generated from the student's writing. Site B's district formed a committee to propose a consistent spelling curriculum. In the fall, the district will implement the proposed curriculum. The second grade curriculum components include Word Wall activities, Making Words, word families, Signs for Sounds, Daily Oral Language, writing activities, and various activities to raise spelling consciousness.

The communities surrounding Sites A and B are very supportive . For example, attendance at annual parent-teacher conferences is almost always 100%. At conferences, one frustration that is commonly shared among the teachers and parents is the issue of reporting spelling progress. Site A addresses the student's progress through a developmental writing continuum. Site B administers letter grades in their spelling program. The teachers find it difficult to give a letter grade for spelling, as an isolated subject. Community members, staff, and parents are active on the School Improvement Committee at Site B. Both sites have very strong parent-teacher groups. The parent volunteers are responsible for running the computer labs and for providing all of the help in the Learning Centers. The parent-teacher groups also organize many fund raisers, assemblies, and special events throughout the year. Also, they each have a partnership with their local park district. Photographers and reporters are often at Sites A and B reporting the current happenings in their local papers.

<div align="center">National Context of the Problem</div>

The problem of the existing approaches to spelling instruction has generated concern among researchers at the state and national level (Gill & Sharer, 1996). A concern is that less than adequate teaching materials and instructional techniques may prohibit spelling proficiency and competency. Traditionally, spelling has been taught within a specific structured time frame using a text with weekly spelling lists which were memorized for a Friday test. Morris (as cited in Nelson,1989) expressed:

> Published spelling curricula have been misused in many classrooms in this
> country over the years: for example, engaging children in what are oftentimes
> meaningless workbook exercises; asking some children to memorize,
> week after week, word lists that are conceptually too difficult, while a few of
> their classmates are urged to learn words that they already know. (p. 255)

Teachers have continually observed that there was little carry over in the students'

writing, despite the success on Friday's weekly test.

Recent research supports John Dewey's insights that learning to spell is a developmental process and it involves thinking, not just rote memorization (Gentry, 1987). Gentry (1987) has identified the following developmental stages: prephonetic, early phonetic, phonetic, transitional, and correct, that a learner passes through as they learn to spell. Also, researchers state that teaching spelling needs to be integrated into every aspect of the curriculum (Hong & Stafford, 1997). A study done by Calaway, McDaniel, and Mason (as cited in Wilde, 1990) found that the worst spelling came from those who received formal spelling instruction unrelated to reading and writing. Efforts by leaders in the field are now being made to inform educators of the effective spelling strategies which can be used to enhance spelling transfer.

CHAPTER 2

PROBLEM DOCUMENTATION

Problem Evidence

In order to document the targeted students' spelling accuracy, developmental spelling tests were administered, and writing samples were collected and analyzed. Pre and post tests were given weekly at Site B only. Developmental appropriateness, spelling curricular requirements, and obligation to report spelling grades to parents are the reasons for giving these tests exclusively at Site B. Of the 46 students at both sites, all were involved in this collection process.

Developmental Tests

Developmental tests were administered at both sites. Twenty-eight students at Site A were administered a First Grade Developmental Inventory (Appendix A) and 18 students at Site B were administered the Richard Gentry's Developmental Spelling Inventory (Appendix B). Although the lists were different, the developmental stages the learners go through were consistent. A summary of the students' developmental stages in spelling are presented in Table 1.

Of the 28 students evaluated in Site A, 86 % are within the developmental stages of prephonetic to phonetic. Meanwhile, of the 18 students evaluated in Site B, 94% are within the developmental stages of phonetic to correct. Reviewing the data, there is a similar number of students at the phonetic stage of spelling. Students at this stage literally spell what they hear, therefore, sometimes their letter choices do not

conform to conventional English spelling (Gentry & Gillet, 1993). Any student at or below this stage should not be expected to spell conventionally most of the time because their spelling concepts are not yet fully developed. Students need to be in the phonetic stage of spelling before they can really improve their spelling based on spelling instruction in the classroom. However, students at the transitional or conventional stage should be expected to spell at a higher accuracy level. This data provides evidence that not all of the students in the study are at the same developmental stage. Therefore, teachers need to be aware of the developmental stages so that they can provide appropriate instruction. One way they can address these stages is by encouraging invented spelling in children's writing throughout the curriculum.

Table 1

Developmental Spelling Inventory Results September 3, 1997

DEVELOPMENTAL STAGE	SITE A	SITE B
Pre phonetic	5	0
Early Phonetic	8	1
Phonetic	11	10
Transitional	3	5
Correct	1	2

Writing Samples

Writing samples were collected during the first three weeks of school from all the students at both sites. The samples were collected to find an index of control for each student to be used as baseline data to chart growth throughout the research period. The index of control was found by applying a formula to the students' writing samples. First, the number of different words the student attempted to write were counted. Then, the number of words spelled correctly were totaled. Finally, the

number of words spelled correctly were divided by the total number of different words (Laminack & Wood, 1996). Only 25% of the students at Site A had an index of control at or above 60%. However, a total of 78% of the students at Site B had an index of control at or above 60%. Students at Site B clearly had a better spelling consciousness due to the fact that they have had an additional year of spelling instruction. Students at Site A have mirrored their developmental stages. However, successful spellers should have higher index of controls. Looking at a student's writing sample provides evidence of their proficiency level. Therefore, the writing samples indicate that the students do exhibit poor spelling transfer. Spelling errors can tell about a child's stage of spelling development and level of word knowledge. Spelling growth will be observed by collecting future writing samples and then finding the index of control. As the students acquire additional spelling knowledge, carry over will be seen in these future writing samples. Another way to assess student's spelling growth is to administer pre and post tests.

Pre and Post Tests

Within the first month of school, the students at Site B were given three weekly pretests to determine which words in the lessons were unknown. Each pretest consisted of 10 words; four high-frequency words which were selected from the students' written work, four words that emphasized word patterns taken from the students' reader, and two choice words which were determined by each student. The researcher observed that 50% of the students missed zero to two words, 30% of the students missed three to four words, and 20% of the students missed five or more words. An analysis of errors made on these lists served as evidence to help define what a student knows about the given words within the three week period. The pretests indicated that there is a lack of transfer of previously learned high- frequency words and word family patterns. The pretest also served as a continuous weekly

check on a child's developmental readiness to learn at their level. After the pretest, the students corrected their own errors immediately. This technique aids to the students' visual memory because it gets children to focus on their spelling errors visually (Gentry, 1987).

After the students self-corrected their own pretest, the students studied the unknown words, then a post test was administered. The post tests showed positive gains. Eighty percent of the students missed zero to two words, and 20% of the students missed three to four words. A record of the students' misspelled words were noted and recorded, then added to the students' individual spelling dictionary. The students recorded their scores on a graph, so that they could chart their progress over time. By self-correcting their own pretests, students gain metacognitive skills to apply to their spelling (Pressley & Woloshyn, 1995). Unfortunately, many teachers are unaware of the value of weekly pretests, focusing instead on weekly post tests to measure progress (Nelson, 1989). Pre and post tests are valuable components within a spelling curriculum.

Summary

In order to show evidence of the spelling related problem, developmental spelling tests were administered and writing samples were collected and analyzed. Pre and post tests were also given weekly at Site B. The evidence reflected that a majority of the students were spelling at a phonetic stage and they would benefit from further effective spelling strategy instruction. After analyzing all of the evidence from the developmental spelling tests, students' writing samples, and pre and post tests, probable causes were determined.

Probable Causes

Spelling instruction is an area of concern for both teachers and parents. Researchers are beginning to examine and refine the programs and techniques of

teaching spelling strategies. The research literature suggests there are several causes for lack of spelling transfer in students' written work. These causes relate to three main areas: home, school, and students.

Home

Children need to be exposed to print at home at an early age, it tends to help their readiness skills when they enter school. If children are not being exposed to these things at home, it could effect their achievement in school (Cunningham, 1995). Not exposing children to writing and reading at an early age may be a cause to why they are not successful as spellers later in life. In addition, the school is an important component in developing a child's spelling awareness. When the students enter kindergarten and first grade, the teacher needs to make sure he/she is providing ample opportunity for the student to develop into a reader, writer and speller.

School

Teachers should provide a print-rich environment in their classroom. These environments may include: word walls, pocket charts, big books, reference charts, and children's writing (Hong & Stafford, 1997). These components allow children to look to the room as a reference and learning tool. This is considered an effective spelling strategy. Absence of a print-rich environment may be a cause to the problem of poor spelling strategies used by students.

The traditional spelling curriculum and classroom practices need to be reevaluated. The traditional spelling program consists of a textbook or spelling workbook. Also, the lessons were characterized by weekly lists of words and written exercises emphasizing memorization and encouraging short-term learning. This memorization model of spelling was used in hopes that it would have an effect on spelling transfer within the students' written work. Little transfer was occurring, so researchers needed to rethink what spelling curriculum and instruction should look

like (Gill & Sharer, 1996; Pressley & Woloshyn,1995). Most spelling instruction is not linked with meaning and is isolated from purposeful reading and writing. Evidence is growing that spelling should not be taught as a single subject, or thought about as an isolated skill. Teachers need to recognize the value of integrating spelling with writing, reading, vocabulary, and other content areas (Gentry,1987; Wilde, 1992; Cunningham,1995).

Even if children are involved in reading and writing with numerous opportunities for practice and experimentation, many researchers believe that this approach will work for some students, but not for all students learning how to spell. Students still need spelling strategies to be made available to them. Teachers need to provide guided practice and help students discover and notice features of words. Research suggests that if teachers don't teach those skills and strategies together, there will be a lack of spelling transfer between reading and writing (Gentry,1987; Routman, 1988).

Many educators are unaware of spelling strategies or procedures that are supported by research. Wilde (1992) states that "Spelling strategies have been a missing component in spelling curriculum and instruction" (p. 118). It still appears that the majority of spelling instruction depends on commercial text with little emphasis on innovative spelling instruction. A "How Do You Teach Spelling?" survey was distributed to a total of 46 teachers at both instructional sites (Appendix C). The results of this survey are shown in Table 2. Forty-six percent of the teachers surveyed always use a spelling textbook while 24% never use a spelling textbook. The remaining 30% periodically use a spelling text. This indicates that a majority of the teachers at both sites teach a traditional method of spelling and may be lacking knowledge of effective spelling strategies.

Spelling programs fail to incorporate a variety of spelling strategies that the students can utilize when learning how to spell. Based upon discussions at faculty

Table 2

Teacher Survey Results Shown in Percentages September, 1997

TEACHING TOOL	NEVER		SOMETIMES		ALWAYS
Spelling Textbook	24	00	13	17	46
High Frequency Words	26	04	39	13	17
Word walls	09	06	07	22	17
Weekly tests	13	04	06	09	68
Developmental tests	40	04	41	11	04
Words in trade books	28	11	26	13	22
Words in content areas	17	17	23	15	28
Student writing	09	09	26	24	32
Conferences	19	09	26	15	31
Spelling Games	17	06	35	20	22

and grade level meetings, many teachers are willing to change their spelling program but don't because: (a) they don't know effective spelling strategies to use within their grade level, (b) they do not understand the stages of developmental spelling and writing, (c) information on spelling research and strategies have not been provided to strengthen their knowledge, or (d) it's easier to use a publishers word list or workbook that is supported by the district. Hillerich (1982) observed little instruction about how to acquire spelling skills, nor did teachers recommend or model strategies that could be used to study spelling words.

Research recognizes that learning to spell, like learning to talk, is developmental. Teachers are uninformed or lack an understanding of the stages of development and the characteristics of each stage. In the survey that was administered to the 46 teachers at both sites, 44% of the teachers never gave their students a developmental spelling test and 56% sometimes utilized the developmental test within their spelling program. Again, this indicates that the teachers may not be aware of effective spelling strategies, such as developmental tests.

It is unrealistic to expect a first or second grader to spell all the words correctly. However, it is realistic to expect some words to be spelled correctly all of the time. Children typically spell most words correctly after a certain point in their development, particularly high-frequency words. Given the developmental stages of spelling documented in recent research, Nelson (1989) emphasized that the order in which words are introduced should parallel the sequence of stages children naturally move through as they become increasingly proficient spellers. Spelling word selection should reflect not only the understanding of spelling stages, but also reflect high-frequency word usage in the students' writing. An effective spelling teacher must have an understanding of the nature of the English spelling system itself as well as knowledge of the stages through which children pass as they learn to spell. Bolton and Snowball (1985) alleged:

> Accuracy in spelling is a gradual developmental process and the learners need lots of time and practice to take risks and make mistakes. The teacher needs to provide plenty of opportunities for students to read and write which include modeling by adults and peers if spelling transfer is going to occur. (p. 20)

Therefore, through developmental awareness, teachers will gain insight regarding the logic behind children's spelling and realize that errors may be due to the student's development and a limited exposure to words, rather than an inability to spell (Bolton & Snowball, 1985). Even though the school may provide appropriate spelling instruction, it is ultimately up to the student to develop a spelling consciousness using the strategies best suited for them.

<u>Students</u>

Too often teachers assume students will learn phonics naturally. However, many students need to be taught phonemic awareness. The teaching of the word families for example, -at, mat, cat, is a way to build the students' phonemic awareness

(Hong & Stafford, 1997). A lack of phonemic awareness may be a cause to poor spelling achievement.

Students need to be provided a variety of strategies when learning to spell. High-achieving spellers have developed and use a variety of spelling strategies, while low-achieving spellers have neither developed nor use such strategies (Block & Peskowitz, 1990). If students are not encouraged to use their metacognitive skills, their spelling progress may be negatively effected.

As stated above, there are many probable causes as to why there are varying degrees of conventional spelling within students' writing. These include:

1. Students have no introduction of early reading and writing.

2. There is no existence of a print-rich environment.

3. There is a lack of effective spelling strategies being taught.

4. Spelling is being taught exclusively in isolation.

5. Developmental stages are not being accommodated in instruction.

6. Students lack a phonemic awareness.

7. There is an ineffective use of strategies by students.

The first probable cause relates to the home environment. Probable causes 2 through 5 relate to the school environment and 6 and 7 relate to the students themselves. In the next chapter solutions will be presented to address these probable causes effecting the targeted first and second grade classes.

CHAPTER 3

THE SOLUTION STRATEGY

Literature Review

There is a considerable amount of research available that addresses spelling programs and strategies. Research states consistently that a successful spelling program provides an integration of reading, writing, and word study. Research informs teachers to not teach spelling as an isolated subject, but rather to integrate spelling across the curriculum (Gill & Sharer, 1996; Pressley & Woloshyn, 1995). Johnson and Marlow (1996) point out:

Spelling is a subject often taught in isolation, and not as a tool for writing.

Therefore, students do not recognize the primary purpose of needing to spell

correctly, which is to be able to communicate effectively. (p. 17)

In order for teachers to help their students recognize this purpose, reading and writing will have to play a crucial role in the spelling curriculum.

In the past, teachers have relied too heavily on traditional spelling programs which utilized basals and simple memorization. Spelling tests are essentially an act of simple memory and recall (Laminak & Wood, 1996). Spelling needs to involve many opportunities to develop higher order thinking skills to promote appropriate transfer. The spelling program should not involve meaningless word lists, but rather be a combination of direct instruction and authentic writing activities (Palehonki, 1995). Gentry and Gillet (1993) collaborate in stating, "The secret to a successful program is

a good balance" (p. 3). A balanced spelling program includes the following: developmental awareness, phonemic awareness, direct instruction, analogy, imagery, and word walls.

<u>Developmental Awareness</u>

A number of spelling experts (Tarasoff, 1990) have acknowledged the fact that early learners exist at a number of different developmental stages. Wilde (1992) believes "acquisition of spelling knowledge is a developmental process" (p. 123).

Children start out at the prephonetic stage wherein their writing is simply a collection of scribbles, circles, and lines with a few random letters thrown in. Next, children progress into the early phonetic stage. At this stage, children are writing formed letters of the alphabet and string the letters together that look like printed language. Children also realize that letters correspond to sounds, but, cannot always match the correct sounds to letters.

Then, children move to the phonetic stage. Children at this stage spell very systematically, they spell, literally, what they hear. They are now developing a spelling consciousness which enables them to copy spellings from environmental print, personal dictionaries, and other displayed sources such as a Word Wall.

Next, children progress to the transitional stage. During this stage, the children pay attention to what words look like in addition to what they sound like. They begin to incorporate vowels and endings in their spelling. Also, the use of spelling instruction, combined with purposeful writing will typically increase children's spelling accuracy.

Finally, children reach the conventional stage, in which most words the children are writing are spelled correctly. The child incorporates his/her knowledge of the English language and letter patterns and rules. The child increases his/her focus on word meanings (Gentry & Gillet, 1993). Generally, a child does not reach the conventional stage until the age of seven or eight. Table 3 presents samples of a

conventional stage until the age of seven or eight. Table 3 presents samples of a

child's development through the above stages (Gentry & Gillet, 1993).

Table 3

Samples of The Five Developmental Stages

Stage	Leslie's Writing	Translation	Age
Precommunicative	EOIIVEJOENEMIEDN DNMDRMNE	(Story describing a picture of a flock of butterflies)	3 years, 3 months
Semiphonetic (from captions)	ALD GIZ HMT DPD	allowed girls Humpty Dumpty	5 years, 11 months
Phonetic	TAS AS E PACHURR FER MOM I HEP UOU LEK TAS PACHERR EV DNL DEK AND DASY DEC.	This is a picture for Mom. I hope you like this picture of Donald Duck and Daisy Duck.	6 years, 3 months
Transitional	WONES A PON a time we BOTE a LITTEL kitten. you NO how THAY are WHIN THERE little-THERE RASCULES! This one LUVES to CLLIME trees and SRCACH PEPPEL. HE is a MENE RASCULE.		7 years
Conventional	When I went to the zoo, I saw lions. They were sleeping. There were two of them. They were big and HARY.		7 years, 9 months

Henderson (1985) recognizes that "All children can learn to be competent

spellers but they do so over time and in developmental stages" (p. v). Teachers need

to be aware of these stages also, so that they can appropriately address the students'

needs. One strategy a student needs in order to develop into a successful speller is phonemic awareness.

Phonemic Awareness

Research states that phonemic awareness is strongly related to spelling competence (Pressley & Woloshyn, 1995). Snowball (1997) emphasizes that "it is definitely worth while to help children hear the sounds in words by developing phonemic awareness and then exploring sound/symbol relationships and spelling patterns" (p. 34). Teaching children word families is a powerful strategy because it draws their attention to spelling patterns that they can use when they are writing. It has been proven that children who are allowed and encouraged to invent-spell develop an early and strong sense of phonemic awareness (Cunningham, 1995).

The invent-spell process should not be thought of as something children do instead of learning how to spell, but rather as a path to learning how to spell. Two exciting things happen when young children are encouraged to write words the way they sound: they are able to independently figure out how words are spelled and they are able to write independently at a much earlier age than anticipated (Wilde, 1992). Investigators such as Cunningham (1995) observed that, "children born into homes where someone spends time with them in reading and writing activities walk into our schools with an incredible foundation upon which our instruction can easily build" (p. 7). Therefore, it is never too early to expose children to writing.

Another way to develop phonemic awareness through spelling is to incorporate Signs for Sounds into instruction. Signs for Sounds, an original program developed by Carolyn and Del Bechthold (1978) from California, allows the children to follow a controlled phonetic progression when spelling. It teaches the students to segment words using basic phonetic elements. A sample Signs for Sounds worksheet can be seen in Appendix D. Signs for Sounds is one way a teacher can provide direct

Direct Instruction

Spelling should be taught directly for 60 to 75 minutes per week (Gentry, 1987, 1993, 1997, Reith et al.,1972). The teachers have an active role as a facilitator to promote spelling growth. Tarasoff (1990) affirms that the teacher enhances the learning process by :

a) providing a rich language environment.

b) enhancing students' attention to learning, students are involved in meaningful, interesting, varied and purposeful activities.

c) increasing the students' awareness of spelling knowledge and strategies.

(p. 20)

Teachers have a responsibility to develop appropriate spelling lists for their students. Spelling lists used within the curriculum should stem from high frequency words, choice words, and word families. Teachers identify high frequency words based on children's writing. As Marlow and Ediger (as cited in Johnson & Marlow, 1996) expressed:

It makes no sense for children to learn to spell a word that is not in their speaking or writing vocabulary. There is no point in teaching children to spell words that they are unlikely to use in the near future. (p. 4)

Choice words are important because when children are involved in selecting their own words to study, the spelling task becomes more relevant and the frequency of transfer of correct spelling to writing is increased (District 44, 1997). Once the lists have been formulated, pre and post tests should be administered as a part of spelling mastery. Students should correct their own errors on their pretest as a way of studying the words. Pressley and Woloshyn (1995) stated "the correction and analysis of spelling errors provides an excellent opportunity for the student to acquire new spelling skills and allows the teacher to monitor students' spelling progress" (p. 121). Johnson and

Marlow (1996) stated "no single strategy can be used to overcome all irregularities in written English" (p. 235). Furthermore, it has been documented that good spellers rely on a wider range of strategies than do poor spellers (Pressley & Woloshyn, 1995). Analogy, imagery, and the existence of a print-rich environment which includes a Word Wall, are examples of effective strategies.

Analogy. Research suggests that once children have some words which they can read and spell, they use these known words to figure out unknown words (Cunningham, 1995). When children refer to these known words, they are creating an analogy. During direct instruction, the teacher can model examples of how the students can make an analogy. An example of a teacher modeling an analogy would have the teacher stating that she knows that 'hats' is indeed spelled H-A-T-S because she already knows how to spell 'hat' and she knows that there is an s at the end. Englert (1985) found in her study, that analogy training was an effective strategy. It was stated that only the students who had the analogy training were able to transfer their newly acquired knowledge of spelling patterns to phonetically similar words. Analogy instruction is appropriate for words with common letter pattern, but other strategies, such as imagery, may be needed when words do not have this characteristic (Pressley & Woloshyn, 1995).

Imagery. Research has documented that imagery was very effective in promoting spelling (Pressley & Woloshyn, 1995). Expert spellers effectively use a visualization strategy, that is, they use visual imagery to encode the spelling and visualization to retrieve it from memory. Radaker (1963) was among the first investigators to test whether mental imagery might aid childrens' acquisition of word spelling. Radaker (1963) found that the children trained to use mental imagery spelled more words correctly on spelling tests relative to children who were not trained to use imagery. Furthermore, children instructed in imagery continued to demonstrate growth

in spelling performance over long periods of time. A basic procedure, similar to that of Radaker (1963), for helping students visualize words of relevance to them is outlined in Table 4.

Table 4

Imagery Training Instructions

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1. Select appropriate words for spelling instruction.

2. Have the students imagine that they are watching a large video screen or computer monitor.

3. Have them focus on a blank screen.

4. Display a printed word and ask students to print that word on their imaginary screens.

5. Have students describe the colors and shapes of their letters, and silently read the letters in order.

6. Have students write the words on their papers from memory and check what they have written.

7. Have students verify spellings by comparing their words to the displayed words.

8. If their spellings are incorrect, the imaging process should be repeated.

Teachers should encourage students to use imagery, not only for spelling tests, but when the students are writing. Teaching children strategies for correct spelling is far more important than giving them the correct spelling of any particular word (Wilde, 1992). Teachers should rarely tell students how to spell a word. As students sound out words, try different spellings to see how they look, discuss possible

spellings with peers or check in reference books, they gain competence through acting independently.

When discussing spelling patterns and letter combinations, teachers should encourage students to use imagery. Students should say the word, visualize it and then write the word when they are recalling the spelling of a word. One common technique that adult writers use is to write more than one possible spelling of a word and then see which one looks right. Cunningham (1995) developed a 'Have-a-Go' strategy (Appendix E).The student has a go at a spelling word first then goes to the teacher for advice to check if it is correct. According to Gentry (1997) " 'Have-a-Go' strategy develops two good spelling habits: trying alternative spellings, and hunting down correct spelling" (p. 86). Therefore, by helping students learn how to "see" letters or create a visual image, the teacher is providing a valuable tool for spelling performance. Another visual tool students can utilize is a word wall.

Word wall. One very important component of a print-rich environment is the Word Wall. Words on the Wall is an effective strategy for teachers who are teaching high frequency words (Cunningham, 1995). It is an interactive list of words displayed on a wall chart. The words listed on the wall are generated from the student's writing. Words are placed on the wall alphabetically. It is recommended that a teacher adds four or five words each week to the wall (Cunningham, 1995). Each teacher can personalize their wall to fit their own needs. For example, he/she could write the words in various colors, cut the words out in their shapes and write in cursive or print. One "trade secret" that makes using the Word Wall much easier for children is to write the words on removable self-stick notes. This allows the students to remove a word from the wall and bring it to their desk for an easier reference (Hong & Stafford, 1997).

There are also many activities that a teacher can incorporate with her/his Word Wall. Teachers can clap out the syllables or chant the words on the Word Wall.

Students and teachers can also find words that rhyme or perhaps are in the same word family on the Word Wall. In addition, teachers can have the students make sentences and do mind-reader activities with Word Wall words (Cunningham, 1995). Having a Word Wall is a valuable tool for any teacher to have when they are trying to teach new words to students.

Research has stated that to make spelling meaningful and lasting traditional programs are just not enough. Spelling needs to be eliminated as a separate subject within the curriculum. Instead, as Wilde (1990) concludes:

> Spelling occurs as a part of writing, 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. (p. 287)

Strategies such as analogy, imagery, have-a-go, and Word Walls should not be restricted to the 60-75 minutes per week for spelling instruction. These strategies should be incorporated through cross-curricular writing. Conferences and observation should be conducted as a means of monitoring which spelling strategies the students are using effectively (Wilde, 1990). As previously stated, the ultimate goal of spelling instruction is to develop skills that will enhance students' abilities and confidence as effective writers and communicators. By emphasizing these strategies, students will become effective writers and communicators in all content areas.

Project Objectives and Processes

As a result of increasing effective spelling instruction during the period of September, 1997 to December, 1997, the first and second graders will increase their awareness of multiple spelling strategies, as measured by student's work and conferences.

As a result of providing a print-rich environment and ample resources during the period of September, 1997 to December, 1997, the first and second graders will increase transfer of spelling words across the curriculum, as measured by

student's artifacts.

In order to accomplish the terminal objectives, the following processes are necessary:

1. Materials that will foster spelling transfer will be developed.

2. A series of learning activities will be implemented to encourage the use of spelling strategies.

3. A survey will be created and administered to find out which spelling strategies are currently being utilized in the classrooms at both sites.

4. Checklists will be developed to determine growth in spelling.

5. Student artifacts will be collected and assessed.

<center>Project Action Plan</center>

The spelling programs at both sites will consist of formal and informal instruction. There will be 60 to 75 minutes of formal instruction per week. Direct spelling instruction will include Signs for Sounds and Making Words, (Cunningham, 1992). Informal instruction will center around Word Wall activities and spelling games.

Data Collection Tools	Materials Required
<u>Teacher Survey</u>: Both site researchers will distribute a survey to the classroom teachers at their buildings during the first week of school. The survey will show existing spelling teaching techniques within each site	Teacher survey
<u>Developmental Spelling Test</u>: Both researchers will administer the tests within the first few weeks of school. The test will determine the spelling stage of	Site A will administer a First Grade Developmental Inventory. Site B will administer Richard Gentry's Develop-

each student.

Pre/Post Tests: Site B will give tests weekly and will focus on targeted spelling words derived from high frequency and spelling program. Tests will determine students' knowledge of spelling words from direct instruction.

Artifacts: Writing samples will be collected continuously as spelling words are presented to see if students are applying spelling strategies to their written work.

Assessment Checklist: Researchers at both sites will use checklist to assess spelling growth in their students.

mental Spelling Inventory.
High frequency word list and targeted word list (Appendix F)

Student stories, journals, assignments across the curriculum

Assessment checklist created by Snowball, 1997 (Appendix G)

Methods of Assessment

In order to assess the effects of the interventions after a four month period, the developmental test given in September will be re-administered. In addition, student writing samples will be collected throughout the intervention in order to analyze error rate of spelling patterns and high frequency words. Assessment checklists will be documented to determine the effectiveness of the spelling strategies.

CHAPTER 4

PROJECT RESULTS

Historical Description of the Intervention

There were two main objectives of this project. The first objective was to increase student's awareness of multiple spelling strategies. The second objective was to increase transfer of spelling words across the curriculum. Implementing a variety of spelling strategies through formal and informal instruction were meant to effect the desired outcomes.

Formal Instruction

Selected spelling strategies were taught through formal instruction. Formal instruction was identified as teacher-guided, directed lessons with the students. Sites A and B followed research which recommended that 60-75 minutes of formal spelling instruction should be taught each week. Signs for Sounds, Making Words, analogy, imagery, and pre and post tests were included within the formal instruction.

Signs for sounds. Signs for Sounds was taught once to twice a week during the research study. The teacher taught to the whole group. Each lesson was based on a specific phonetic pattern. The students received a lesson worksheet. The teacher then dictated a word for the students to spell. The students then spelled the desired word by circling a letter from each of the first three columns. After the word was circled, the students wrote the complete word in the fourth column. When the list of words was complete, the teacher then brought the students back to the first word and she gave

the students the correct spelling for each word so that the students could self-correct their work, immediately aiding to their visual memory. Self-corrected student samples can be seen in Appendix H. Students at Site A completed lessons 1-16 which taught them all of the short vowels. Students at Site B connected their lessons to their weekly spelling word lists. Signs for Sounds was easily supplemented by another program called Making Words.

Making words. Both sites implemented Making Words activities weekly within the classroom curriculum to develop phonemic awareness, explore words and increase the students' word knowledge. Before the lesson was introduced, the teacher decided on a word that would end the lesson. This word could focus on a specific vocabulary word within the class curriculum, letter-sound patterns or a particular spelling skill. The teacher made a list of all the shorter words that could be made from the letters of the final word. These words were then written on index cards to be used at the end of the lesson.

The students were given small letter cards that represented the final unknown word and a holder for the cards. For example, if the focused word was "lights", the students would be given the vowel "i "and the consonant letters "g", "h", "l", "s" , and "t". The teacher placed larger letter cards needed for the lesson in a pocket chart in the same order as the children. The teacher began by asking the students to take two letters and make the word "is". A child who made the word correctly was asked to make the same word with the large letter cards. The other students checked their word and made the appropriate corrections if necessary. Then the teacher asked the students to change the consonant and make the word "it". The teacher continued to instruct the students to make three letter words, four letter words, five letter words, and the final word. While instructing the children, clues were given about how many letters to use, how many letters to change, and meanings of the words, if necessary. Once the

words had been made by the students, the words were used for sorting and demonstrating patterns. The previously made index cards were lined up so that the students could see the word families and make connections between the words. For example, the words "hit", "lit", and "sit" were three letter words created from the word "lights". The teacher continued with the help of the children to sort the words made by the students in the lesson to demonstrate word patterns. The students used this strategy when developing word families in their reading, writing, and spelling. By comparing and contrasting words and looking for patterns, the students were introduced to analogy.

Analogy. Analogy instruction was implemented at Site B through both formal and informal interactions with children when they were reading, writing, and spelling. The students were taught to decode unknown words by using words they know. The children learned to group words by rhyming and spelling patterns in various ongoing class activities. By organizing words in families, the students enhanced their memory, increased their ability to make connections to other words and looked for relationships among words. The students were taught to compare and contrast words by looking for patterns as in the Making Words activity. The students would access a known word that they could read and spell, then were taught to compare it to the unknown word. If a spelling lesson focused on the "_in" word family, the students could spell "pin", "win", or "tin". The students were asked to use the pattern and make the word "fin". The students then defined the word by using "fin" in a sentence. The teacher would then ask the students if they needed to spell "chin", how would knowing the words "pin", "win", "tin" and "fin" help them figure out "chin". The teacher would continue with other analogies to help the students think about spelling patterns and build on word families. This spelling strategy was used regularly throughout the action research project. The teacher would capture optimal moments when teaching analogies which would extend

childrens' knowledge and experience with spelling. Occasionally, the students at Site A were exposed to simple analogies while working on Signs for Sounds, Making Words, and Word Wall activities. Analogies would be frequently made when the students at Site B would study words that were administered in the weekly pretests.

Pretests and posttests. Pre and post tests were not used at all at Site A due to developmental appropriateness. However, at Site B, pretests and posttests were given weekly as part of the second grade spelling program. The pretests, which were administered on Mondays, consisted of ten words: two choice words, four high-frequency words, and four words from a specific sound/letter relationship. After the pretest was completed, the students immediately corrected their own list of words. Individual students were called up to the front of the class and took turns writing a spelling word on a chart. Every student used a correcting tool and checked each letter in their word. If the letter was in the correct position, they placed a dot over that letter. If the student didn't spell the word correctly, a circle was placed around the incorrect letter. The dots were used to focus the students' attention on each letter in the word. If a word was misspelled, the student immediately corrected his or her error and wrote the correct spelling next to the word. A record of the errors were recorded by the teacher. The students then copied all ten words for their at-home word list. During the week, the spelling words were used and studied in various activities such as Signs for Sounds, Making Words, spelling games, and through the students' reading and writing.

After a week of word study, a posttest was administered on Friday. The teacher corrected the tests, recorded the results and returned the tests to the students on Monday. Before the next pretest, the students checked their posttest, recorded their progress on a graph kept in their spelling folder, and registered any misspelled words in their personal dictionary called a Quick Word. An important skill needed by the

students to enhance their visual memory of their spelling words was the ability to utilize imagery.

Imagery. Imagery was also an important intervention used within the study at both sites. Teaching imagery was crucial because teaching children strategies for correct spelling was far more important than giving them the correct spelling of any particular word. Imagery was taught to the whole group, as well as to small groups and individual students. The teacher selected a word or words to work on and then asked the students to visualize that word. The teacher spelled the word and then students spelled the word with her while visualizing the word in their mind. Students at Site A at the beginning of the study then wrote the word in the air with their fingers and took a picture of it in their heads. Later, like the students at Site B, the students were encouraged to visualize the words they wanted to spell and then write it the way that they thought it was spelled. Variations of the teacher modeling the strategy included using crayons, markers, highlighters and the computer. Students were also given 'Have-a-Go' sheets. These sheets were used to aide in their letter/sound relationships and to increase risk taking. Before a student was allowed to ask for a spelling of a word, he/she had to first make two attempts to spell the unknown word. After each attempt made by the student the teacher or peer gave positive feedback concerning the correct letters or sounds used. Then, the teacher or peer provided the student with the correct spelling. An example of a student creating their visual image of a word on a 'Have-a-go' sheet can be seen in Appendix I. This technique was encouraged to be used whenever the students were writing and spelling.

The formal techniques: Signs for Sounds, Making Words, analogy, imagery, and pre and post tests allowed the teachers to directly address the spelling skills needed by the students. A specific amount of time was allocated for formal spelling instruction. However, the strategies learned by the students within this time was

transferred across the curriculum. In addition to the direct instruction, the teachers enhanced the students' spelling consciousness through a variety of informal instruction techniques.

Informal Instruction

Informal instruction included the teacher as a facilitator who enhanced the spelling strategies throughout the curriculum by involving students in meaningful, interesting, varied and purposeful activities. The activities were intended to be ongoing and to be used during any reading or writing activity. Informal instruction was achieved through providing a print-rich environment, a Word Wall and various spelling games.

Print rich environment. Both sites made sure that the students were immersed in print within the classroom. The students were shown examples of correctly spelled words by labeling objects in the room. For example, on the first day of school, the teacher at Site A had students name the objects in the classroom. As they named them, the teacher wrote the word on sentence strip paper and then a student taped the word on or around that object. Students were also provided examples of print which they could manipulate in pocket charts located in the rooms. Posters, charts, and books were also pointed out as examples of print. Students' writing artifacts were displayed in both rooms as examples of print, as well. The teachers modeled the use of print by using the room as a resource by thinking out loud and stating things like, "I need to use the word 'red' in my next sentence. Where do you think I could look to find the word red? I know, I could look on the color word chart or I could look on the Word Wall under the letter 'r'." The teacher's aim was to have this strategy of using the room as a resource internalized in her students. In addition to the other components, having a Word Wall added to the print rich classroom.

Word wall. Sites A and B both incorporated Word Wall activities into their spelling curriculum. Site A began with an empty wall and added words as they were taught. Site B's wall began with core words that were learned and mastered in first grade. Then, new words were added accordingly. Activities were facilitated to enhance the learning of the words on the Word Wall. One activity was called Cloze. The teacher would start a sentence and then the students would have to finish it using one of the words from the Word Wall. Another activity was Mind Reader. In this activity, the teacher, and sometimes students, would pick a word from the Word Wall and then made the class guess which word it was by giving clues. For example, if the word was 'cat' the teacher might say, "I'm thinking of an animal that begins with the letter 'c'." Rhyme review was an activity very closely related to Mind Reader however, the students focused only on words that rhymed. Some word families that were targeted included: '_at', '_in', '_ight' and '_ake'. Clap, Chant, Write was exactly what it's name describes. This activity focused on the word more intensively than the other activities. The students clapped, chanted, and then wrote the targeted word. The first two steps of this activity targeted kinesthetic learners. Finally, imagery was used to learn new words on the Word Wall also. The aim was to have students use the Word Wall as a resource to spell words correctly. There were also a number of other spelling games that the teachers used to supplement spelling instruction.

Spelling games. The second grade students at Site B were engaged in a spelling game each week to help keep their interest high while learning to spell words. The games were used to supplement the spelling program. A variety of games were used such as: Word Bingo, Concentration, Word Riddles, Word Search, Sparkle, and a spelling computer game called Spellbound. The students favorite game to participate in was Sparkle. This game reinforced visual imagery, good listening skills, and provided all students a fun way to focus on their spelling words. The entire class

made a circle in the classroom. The teacher would select a spelling word from the current word list. One student began the game by saying the initial letter of the word. The next student called out the second letter, and so on. This continued until the entire word was spelled correctly. Once a word was completed, the next student in the circle would shout out "Sparkle", then they would have to sit down. Play continued around the circle. If one child misspelled a word, the teacher signaled to the student and that child had to sit down. The next person in the circle began the misspelled word. This activity continued until one person remained standing. The winner usually received a special sticker. A variety of games along with other informal and formal instruction at Site B added to the students' spelling consciousness and awareness of spelling strategies. Only simple rhyming or guessing spelling games were introduced to the students at Site A during Word Wall or Making Word activities. Most of the activities required a prior knowledge base of spelling words that the students at Site A had not acquired yet, therefore, it presented a need to deviate from the original plan.

Deviations

There were a number of situations when the sites had to deviate from the original plan. Developmental appropriateness was the reason for these deviations. Site A was a first grade classroom and Site B was a second grade classroom. Students at Site A were quite simply not ready for some of the interventions. The first deviation was the time line. Students at Site B were ready to start learning strategies and applying the strategies to their reading and writing during the first week of school. However, the students at Site A did not begin until the fourth week of school, and therefore ended the action research study later than Site B. Regardless of age, the researchers used several tools to assess the spelling competence of the targeted students.

Presentation and Analysis of Results

Developmental spelling tests, writing samples, and assessment checklists were analyzed to determine the spelling growth of the students at both sites. To also demonstrate growth, pre and post tests were administered and evaluated at Site B.

Developmental Tests

Developmental spelling tests were given twice during the research study, once in September and again in January. The initial results were described in Chapter 2. After the January inventory was given, those scores were compared to the initial results as shown in Tables 5 and 6. Growth was shown in every student, examples of such growth can be seen in Appendix J. Some students made slight progress but

Table 5

Percentage of Students at Site A Based on Results From Developmental Spelling Inventories

DEVELOPMENTAL STAGE	SEPTEMBER	JANUARY
Pre phonetic	18	3
Early Phonetic	29	7
Phonetic	39	46
Transitional	11	22
Correct	3	22

Table 6

Percentage of Students at Site B Based on Results From Developmental Spelling Inventories

DEVELOPMENTAL STAGE	SEPTEMBER	JANUARY
Pre phonetic	0	0
Early Phonetic	5	0
Phonetic	56	44
Transitional	28	17
Correct	11	39

remained in the same stage, while others made significant progress and moved to another developmental stage.

Eighty-nine percent of the students at Site A in January, scored within the phonetic to correct stages. That contrasts with 86% of the students who scored within the pre phonetic to phonetic stages in September. This contrast shows evidence of the growth the students made during the study. As of January, 100% of the students at Site B were in the phonetic to correct developmental spelling stages. Fifty-six percent of the students have shown significant spelling growth, while 44% of the students showed slight improvement. The developmental tests gave evidence of student growth from the beginning to the end of the study, while the pre and post tests demonstrated the students' spelling abilities throughout the study.

Pre and Post Tests

Pre and post tests were valuable components in the second grade curriculum to determine spelling growth. During the study, there was considerable improvement from the scores on Monday's pretest to Friday's post test. Research stated that the average student should get 75% of words correct on pretests and almost 100% on the post test (Sitton, 1995). The data collected at Site B showed that about 60% of the students got 80% of the words correct on pre tests. Forty percent of the students got 70% or below of the words correct on pretests. The percentages increased on the Friday's post test. On average, 76% of the second grade students got a score of 90% to 100% on the post test, compared to the 12% of the students that got a score of 70% to 80%, and 12 % of the students got 70% or below of the words correct on the post test. A number of spelling interventions and interactions with words such as: the self-corrected spelling pretest, analogies, Making words and Signs for Sounds helped students "internalize" the limited number of words on the word list for the week. Research did support the test, study, test approach and this approach did make a

difference in the spelling program at Site B.

Since spelling is developmental, it was essential that all the students were at the phonetic stage of spelling before they could really improve their spelling based on spelling instruction in the classroom. As previously mentioned, all the students evaluated at Site B were within the development stages of phonetic to correct.

It was noted by the researcher at Site B that the pre test was an important factor in contributing to the spelling success of each student. The pretest served as a continuous weekly check for the child's developmental readiness to learn at the second grade level. The students who continually received low scores on their pretests had difficulty with transferring their spelling knowledge to their written work. The students who got 80% of the words correct on the pretest were more successful when applying the new spelling skills to their own writing.

Writing Samples

In September, writing samples were collected from the targeted students at both sites and their index of controls were determined. The samples served as baseline data for the research project. Throughout the study, various writing samples were examined. Index of controls were tabulated from the final writing samples of the study to enable the researchers to examine student's growth. Twenty-five percent of the students at Site A had an index of control at or above 60% at the beginning of the study. By the end of the study, that number grew dramatically to 81%. Eighty-three percent of the students at Site B had an index of control at or above 60% at the conclusion of the study, compared to the 78% of the students, initially. The growth shown by the increased percentages indicated that spelling transfer did occur in children's writing at both sites. In some cases, however, the researchers found that the student's received a high index of control because they relied on safe, known words and were not taking any risks. Appendix K shows an example of a student who scored

a high index of control because minimal risks were taken. Appendix L shows an example of a risk-taking student. The student was confident in his writing and was successful in spelling high frequency words, but chose to invent further, unknown words to improve the writing text. The researchers at both sites used a spelling assessment checklist as a collection tool to establish the strategies used by the students which resulted in their spelling achievement.

Assessment Checklist

The findings of the writing samples, developmental tests, and pre and post tests exhibited increased spelling awareness in the students. To determine which strategies the students utilized, an assessment checklist was administered during student writing conferences. The checklists indicated that the students at Site A relied mainly on their phonemic awareness, high-frequency words, and the resources available to them within the print rich classroom. Many of the students stated that they did not apply imagery and analogy strategies. However, the second grade students at Site B responded by stating that they applied imagery and analogy, as much as phonemic awareness, high-frequency words, and resources within the room. The researchers found the responses encouraging when the students stated that they believed they were continually learning new ways to spell unknown words. The fact that the students were able to articulate their strategies and the goals they are working towards as they continue to improve their competencies in spelling, indicated that the students viewed themselves as effective, skillful spellers.

Conclusions and Recommendations

The goal of any spelling instruction has been to develop skills that would enhance students' abilities and confidence as effective spellers, writers, readers and communicators. The researchers increased effective spelling instruction to enhance the students' achievement in spelling as documented through the developmental

tests, pre and post tests, writing samples, and the assessment checklists. It was also a goal of the researchers for the students' spelling knowledge to be transferred to writing. Learning to spell was shown to be a gradual developmental process. Children at the early stages of spelling development should not be expected to spell words that are not in their reading and writing vocabulary. The teachers' expectations need to fit the students' level of development. The data collected from the developmental tests was helpful in determining which multi-level strategies were going to be implemented at both sites.

The formal and informal instruction which was directed towards the current level of spelling development helped the majority of the students. Spelling progress was improved because the students were provided with strategies that went along with their learning styles and developmental levels. The visual learner benefited from the print-rich environment, Word Wall, Making Words, Signs for Sounds and imagery. Activities and strategies that helped the auditory learner were Signs for Sounds, word games, rhyming activities, and analogies. The kinesthetic learner responded to the manipulating of the letter cards in Making Words, circling the appropriate letters for Sign for Sounds and writing words for the pre and post tests.

It is concluded that the successful spellers employed many effective strategies. Other children progressed more slowly and didn't seem to develop effective strategies or depended too much on a single strategy. In order for the students to develop a spelling consciousness, teachers must provide direct instruction, model effective strategies towards the students' developmental level, create an environment that is print-rich and enable students to experiment with language by being active participants and risk takers.

It was found that all the instructional strategies used were effective. It is suggested that the use of these strategies would enhance any elementary spelling

program. It is also suggested, however, that teachers consider developmental appropriateness before introducing each strategy. We advise that an effective spelling program consists not only of direct instruction but also require an integration with reading and writing. The curriculum integration ensures transfer of the students' spelling knowledge.

In order to further improve the intervention, more modeling of metacognitive skills to improve spelling awareness should be incorporated. The teacher should talk out loud to describe how and when to use the appropriate strategy. Teachers should also display a list of spelling behaviors and strategies that the students could use as a resource. Discussing what a strategy looks like and sounds like should be carried over throughout the school day. This carry over would further ensure the transfer of the students' spelling knowledge.

The researchers conclude that doing well on spelling tests alone, do not produce competent spellers. As stated in the national context, less than adequate teaching materials and instructional techniques may prohibit spelling proficiency and competency. It was also pointed out that the worst spelling came from those who received formal spelling instruction unrelated to reading and writing. The data from this study support that by implementing effective spelling strategies and activities such as: Signs for Sounds, Making Words, analogy, imagery, pre and post tests, Word Walls, print rich environments, and spelling games the students' spelling consciousness increased. Also, it was found that by integrating these strategies across the curriculum, the students transferred spelling words more often. Other teachers could improve their own students' spelling achievements by implementing the various strategies discussed in this study in their own classrooms. In conclusion, success in spelling will occur when an instructor provides a variety of effective strategies which reach the individual, developmental needs of each student.

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APPENDIX A

FIRST GRADE DEVELOPMENTAL TEST

DIRECTIONS FOR ADMINISTERING

Purpose: The purpose of this assessment is to determine a student's progress in developing sound/symbol associations. The student's dominant spelling stage corresponds with the student's ability to read, perceive, and produce the sounds of the English language.

Materials: Word List, Student Response Form, Scoring Guide

Directions:

1. Have each child write his/her name on the response form.

2. Tell the children that you are going to say some words and you want them to write them the best they can.

3. Tell the students to write each word on their papers after you say it.

4. Tell the students you are going to do two practice words with them.

   Say "mat." "We wiped our muddy feet on the mat near the door."
   Say "Say the word with me, "mat."
   > Ask: What letter comes first in mat?
   > What other letters do you hear?
   > What letter comes last in mat?
   > Write the word on the board.

   Say "dig." "The dog tried to dig a hole in the back yard."
   Say "Say the word with me, "dig."
   > Ask: What letter comes first in dig?
   > What other letters to you hear?
   > What letter comes last in dig?
   > Write the word on the board.

5. Administer all 15 words. Use the words in a sentence. D(ot exaggerate the sounds.

1. back	6. mail	11. lamp
2. feet	7. side	12. road
3. step	8. chin	13. plant
4. junk	9. dress	14. short
5. picking	10. peeked	15. grabbed

6. Use the scoring guide below to determine the dominant spelling stage for each student.

7. Record scores on the First Grade Assessment Form.

PP=Prephonetic.............0-20
EP=Early Phonetic........21-36
P=Phonetic...................37-55
T=Transitional..............56-65
C=Mostly Correct.........66-75

APPENDIX B

SECOND GRADE DEVELOPMENTAL TEST

•••

Richard Gentry's Developmental Spelling Inventory

Dictate the following ten words. After saying a word. use it in a sentence.

1. monster
2. united
3. dress
4. bottom
5. hiked

6. human
7. eagle
8. closed
9. bumped
10. type

How To Analyze Children's Misspellings

1. Look at a child's spelling for each word. Find the error type in the scoring chart below that best (not necessarily exactly) matches the child's spelling.

2. Write an abbreviation of the appropriate developmental label beside each of the ten spellings.

3. To find a child's probably developmental level. look for the label that appears most frequently.

SCORING CHART

Precommunicative	Semiphonetic	Phonetic	Transitional	Correct
1. random	mtr	mostr	monstur	monster
2. random	u	unitid	younighted	united
3. random	jrs	jras	dres	dress
4. random	bt	bodm	bottum.	bottom
5. random	h	hikt	hicked	hiked
6. random	um	humm	humun	human
7. random	el	egl	egul	eagle
8. random	kd	klosd	clossed	closed
9. random	b	bopt	bumpped	bumped
10. random	tp	tip	tipe	type

APPENDIX C

TEACHER SURVEY

Dear Teachers:
   I am doing an Action Research Project for St. Xavier University on "Effective Spelling Techniques". Please complete the following survey and return it to me by Friday.

                    Thank-you ,

HOW DO YOU TEACH SPELLING?

Please check the box that best represents how often you utilize the following teaching tools in regards to your spelling program?

	NEVER		SOMETIMES		ALWAYS
1. Spelling textbook	☐	☐	☐	☐	☐
2. High frequency word list	☐	☐	☐	☐	☐
3. Word walls	☐	☐	☐	☐	☐
4. Weekly tests (pre and post)	☐	☐	☐	☐	☐
5. Developmental tests	☐	☐	☐	☐	☐
6. Words in trade books	☐	☐	☐	☐	☐
7. Words in content areas	☐	☐	☐	☐	☐
8. Student writing	☐	☐	☐	☐	☐
9. Conferences (proofreading)	☐	☐	☐	☐	☐
10. Spelling games	☐	☐	☐	☐	☐

COMMENTS:_____
_____
_____
_____
_____

APPENDIX D

SIGNS FOR SOUNDS WORKSHEET

Name _____

Right

1 k l b	a i	t s f	( )
2 k r b	a i	t b g	( )
3 p w h	a i	b d n	( )
4 w p h	a i	n d s	( )
5 f c d	a i	g k v	( )
6 p d w	a i	g l p	( )
7 f t d	a i	p x m	( )
8 r m s	a i	p d n	( )
9 r f g	a i	d p t	( )
10 p n m	a i	n m l	( )

1 _____
2 _____
3 _____
4 _____
5 _____
6 _____
7 _____
8 _____
9 _____
10 _____

APPENDIX E

"HAVE - A - GO" SHEET

HAVE-A-GO

Copy Word	1st Attempt	2nd Attempt	Standard Spelling

APPENDIX F

LIST OF HIGH FREQUENCY AND TARGETED SPELLING WORDS

2-01
(pp. 16, 17 Signs for Sounds)
1. of
2. that
3. to
4. you
5. dream
6. free
7. street
8. team

2-02
(p. 15 Signs for Sounds)
1. are
2. did
3. was
4. fun
5. day
6. play
7. way
8. say

2-03
(p. 15 Signs for Sounds)
1. has
2. but
3. ask
4. read
5. walt
6. rain
7. main
8. plain

2-04
(p. 21 Signs for Sounds)
1. his
2. they
3. this
4. with
5. now
6. town
7. how
8. down

2-05
(p. 21 Signs for Sounds)
1. let
2. from
3. have
4. man
5. cool
6. soon
7. pool
8. school

2-06
1. get
2. her
3. not
4. one
5. dear
6. hear
7. year
8. fear

2-07

1. off
2. were
3. what
4. when
5. before
6. score
7. more
8. store

2-08
(p. 6 Signs for Sounds)

1. where
2. own
3. there
4. your
5. home
6. broke
7. hope
8. joke

2-09
(p. 18 Signs for Sounds)

1. left
2. said
3. their
4. which
5. dark
6. start
7. smart
8. park

2-10
(p. 5 Signs for Sounds)

1. about
2. only
3. each
4. will
5. nice
6. write
7. while
8. like

2-11

1. any
2. out
3. them
4. both
5. air
6. chair
7. fair
8. pair

2-12

1. many
2. most
3. some
4. then
5. share
6. scare
7. dare
8. care

2-13

1. into
2. other
3. these
4. would
5. could
6. should
7. coat
8. float

2-14

1. love
2. well
3. than
4. work
5. found
6. ground
7. sound
8. around

2-15
(p. 28 Signs for Sounds)

1. a lot
2. went
3. because
4. second
5. girl
6. third
7. first
8. dirt

2-16
(p. 4 Signs for Sounds)

1. got
2. people
3. make
4. look
5. take
6. name
7. place
8. came

2-17
(p. 25 Signs for Sounds)

1. very
2. great
3. world
4. time
5. night
6. right
7. fight
8. light

2-18
(p. 14 Signs for Sounds)

1. going
2. good
3. house
4. come
5. spy
6. cry
7. why
8. try

APPENDIX G

ASSESSMENT CHECKLIST

AM I A GOOD SPELLER?

Assessment Checklist

_____ I try unknown words.

_____ I try to write the sounds I can hear in a word.

_____ I think about what the word looks like.

_____ I try to use other words I know to help me spell new words.

_____ I use class lists, books, dictionaries to help me check my spelling.

_____ I try my best when I write and I check my writing to be sure that I've done my best.

_____ I know how to spell words I use often.

_____ I am learning how to spell some other words I use in my writing.

_____ I ask for help when I can't figure it out by myself.

_____ I know how to use capital letters at the beginning of sentences and for names of people and places.

_____ I read a lot.

_____ I write a lot.

_____ I am interested in words.

APPENDIX H

COMPLETED SIGNS FOR SOUNDS LESSONS

1	ⓣ r w	a ⓔ i o	t ⓝ d	t..eh	1
2	g s ⓜ a...e	d t ⓝ	min	2 **men**
3	r f ⓝ a ⓔ i o	d ⓣ g	not	3 **net**
4	ⓣⓢⓝ m a ⓔ i o	ⓓ t n	red	4
5	ⓧⓟ l a ⓔ i o	ⓣ m g	jet	5 **pet**
6	ⓣⓗ m a ⓔ i o	t m ⓝ	nan	6 **heh**
7	j t ⓦ a ⓔ i o	d n ⓣ	wat	7 **wet**
8	ⓙ h p a ⓔ i o	ⓣ n x	jet	8 ☆
9	ⓛ t w a ⓔ i o	t n ⓖ	leg	9 ★
10	ⓜⓖ p a ⓔ i o	n ⓣ p	mat	10 **get**

1	(t) r w	a (e) i o	t (n) d	ten	1 ☆
2	g s (m)	a (e) i o	d t (n)	men	2 ☆
3	r f (n)	a (e) i o	d (t) g	net	3 ☆
4	(r) n m	a (e) i o	(d) t n	red	4 ☆
5	j (p) l	a (e) i o (t)	m g	pet	5 ☆
6	n (h) m	a (e) i o	t m (n)	hen	6 ☆
7	(j) t (w)	a (e) i o	d n (t)	wet	7 ☆
8	(j) h p	a (e) i o	(t) n x	jet	8 ☆
9	(l) t w	a (e) i o	t n (g)	leg	9 leg
10	m (g) p	a (e) i o	n (t) p	get	10 ☆

1	(h) s t	a (e) i o	d t (n)	hen
2	t (j) s	a (e) i o	n (m) t	jam
3	l (m) p	a (e) i o	(n) g d	men
4	p l (m)	(a) e i o	t g (n)	man
5	t n (p)	a (e) i o	f (t) n	pet
6	(p) n r	a e i (o)	d (t) g	pot
7	m (r) p	a (e) i o	t (d) g	red
8	(w) p m	a (e) i o	n p (t)	wet
9	g (h) l	a e i (o)	t (p) d	hop
10	(n) l g	a (e) i o	d f (t)	net

70

APPENDIX I

COMPLETED "HAVE - A - GO" SHEET

HAVE-A-GO

Copy Word	1st Attempt	2nd Attempt	Standard Spelling
	ôonts	wons	Once ʀ
	rapdoi	rambow	rainbow
	Tooth	Toth	tooth
	farey	faire	fairy
	summf	summer ok	

HAVE-A-GO

Copy Word	1st Attempt	2nd Attempt	Standard Spelling
	wuz	ɫʃz	was
	ᴡot	whot	what
	estʋ	estre	Easter
	sPID	sPD	said

APPENDIX J

EXAMPLES OF DEVELOPMENTAL TESTS

1.	B K	2
2.	F t	2
3.	S p	2
4.	U K	2
5.	D n	2
6.	M	2
7.	C D	2
8.		O
9.	S	2
10.	D	2
11.	D	2
12.	B D	2
13.	t	2
14.	S t	2
15.	G D	2

1.	eak	3
2.	fuек	3
3.	seP	3
4.	Luk	3
5.	Pik ing	4
6.	mel	3
7.	Soid	4
8.	Chin	5
9.	deς	3
10.	PeK	2
11.	Lap	3
12.	ſod	3
13.	Plat	3
14.	Chot	2
15.	gabd	3

Date of Administration (Circle One)
(Fall)   Winter   Spring

spigasmt.gr1

(28)
Early
Phonetic

Date of Administration (Circle One)
Fall   (Winter)   Spring

pigasmt.gr1

(47)
Phonetic

1.	BAIC	3	1.	Back	5
2.	Eat	3	2.	feet	5
3.	SAP	3	3.	Step	5
4.	JAC	3	4.	Iuck	4
5.	PIGeNN	3	5.	Pick ing	5
6.	MALL	3	6.	Mail	5
7.	SOD	3	7.	side	5
8.	IIGN	2	8.	chin	5
9.	DrAS	3	9.	dres	4
10.	PeIe	1	10.	Peked	4
11.	LAP	3	11.	Lamp	5
12.	fOOD	4	12.	Rowd	4
13.	PAnt	3	13.	Plant	5
14.	Sort	3	14.	short	5
15.	GABD	3	15.	gra bed	4

Date of Administration (Circle One)
(Fall)   Winter   Spring   (43) Phonetic

splgasmt.gr1

Date of Administration (Circle One)
Fall   (Winter)   Spring   (70)

splgasmt.gr1   Mostly correct

		Stage			Stage
1.	Monster.	c	1.	monster	c
2.	unitio,	t	2.	unidel	T
3.	Prusse.	p	3.	dress	c
4.	botam.	p	4.	bottum	T
5.	Hict,	p	5.	hicked	T
6.	human.	c	6.	haman	c
7.	Eglle.	t	7.	eagle	c
8.	Closed.	c	8.	closed	c
9.	bufmed.	t	9.	bumled	c
10.	tlP.	p	10.	tile	T

Name

Date _9-3-97_

Level _Phonetic_

Moving toward
transitional

Name

Date _12-17-92_

Level _+6 correct spelling_

		Stage			Stage
1.	monsterc		1.	Moster	P
2.	unitidet	t	2.	united	c
3.	Dress	t	3.	drese	T
4.	Bote	s	4.	Botom	T
5.	hicc	P	5.	hicked	T
6.	humin	t	6.	homin	P
7.	eglle	t	7.	Egil	P
8.	clost	P	8.	Clouwlsedp	
9.	Bumt	P	9.	Bumed	T
10.	tip	P	10.	tipe	T

Name

Date 9-3-95

Level phonetic
moving towards
transitional

Name

Date 12-17-1997

Level Transitional stage

APPENDIX K

WRITING SAMPLE WITH MINIMAL RISK

About the Author

My name is Ryan I am seven.

my birthday is 1026.

i lit to go to mydadys house.

and my friends house.

APPENDIX L

WRITING SAMPLE WITH RISKS

My name is Joey Chlo and wen I
grow up I wod lick to be a Sprts
Player. I'm Six I'll be 7 son.
live in barlit. My adrs is 242 WInz drv
I lonce I play football backtbal
and basball hockre and cartoner
didn't play time all. I play hockey
basball football and basketball. I didt
play cartoner, but I would like to.

36 P
18 C
(50%)

84

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