RESEARCH-BASED PRACTICES IN THE TEACHING OF SPELLING

by

WALTRAUD MARIA ASHER

B.Ed., The University of Calgary, 1974

A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF

THE REQUIREMENTS FOR THE DEGREE OF

MASTER OF ARTS

in

THE FACULTY OF GRADUATE STUDIES

(Centre for the Study of Curriculum and Instruction)

We accept this thesis as conforming
to the required standard

THE UNIVERSITY OF BRITISH COLUMBIA
December 1995

In presenting this thesis in partial fulfilment of the requirements for an advanced degree at the University of British Columbia, I agree that the Library shall make it freely available for reference and study. I further agree that permission for extensive copying of this thesis for scholarly purposes may be granted by the head of my department or by his or her representatives. It is understood that copying or publication of this thesis for financial gain shall not be allowed without my written permission.

Department of _____*EDCI*_____

The University of British Columbia
Vancouver, Canada

Date _____*Dec. 28, 1995*_____

Abstract

The purpose of this study was to (a) compile a list of research-supported teaching techniques, (b) ascertain which postulates a representative sample of elementary teachers used to teach spelling and (c) determine to what degree those procedures were used in those classrooms. The research and literature pertaining to the teaching of spelling was reviewed and summarized. From these summaries belief statements and procedural statements were developed and used as the basis for a survey. This survey was distributed to elementary teachers in a school district in suburban Vancouver, B.C. Of the 298 eligible teachers, 199 completed the survey. The results were tabulated and charts and graphs were created to ease the analysis of the data. It was found that much confusion surrounding the teaching of spelling existed among this representative sample of elementary teachers. Often belief statements did not match indicated classroom practices or vice versa. It is recommended that an efficient way be found by this school district to convey to its teachers effective, research-based practices in the teaching of spelling.

Table of Contents

List of Tables

Acknowledgements

First and foremost, I would like to thank my adviser, Dr. Kenneth Slade, who has helped me complete this study through his continued support and guidance. His understanding, support and humour have helped make the pursuit of my Master's degree a memorable and rewarding experience. I would also like to express my special thanks to Dr. L. Gunderson and Dr. R. Anderson, my other committee members, for their valuable comments and suggestions. Also, a special thank-you to Dr. Gerry Snyder who encouraged me to pursue this research.

I owe a debt of thanks to the principals and teachers of the Delta School District who consented to participate in my study. Without their help, this study would have been much more difficult to complete. Also, a special thank-you to the staff of Port Guichon Elementary School who often acted as a sounding board for my ideas and just as often encouraged and supported me in my efforts.

Finally, I would like to thank my husband, Nordin. His love, encouragement and patience have once again made me realize what a wonderful man I married.

Without the support of all these people, I could not have completed this study. Thank-you.

Chapter 1 - Introduction to the Study

The controversy rages on. "Why can't children spell?" As in the past, researchers, teachers, students and parents alike question the techniques and strategies being used to teach spelling. We puzzle over the paradox of children who score perfect scores on every weekly spelling test but misspell those same words in their daily writing. Why is there so little transfer? One of the most frequently-asked questions by students these days, "Does spelling count?", causes teachers to grit their teeth in frustration.

In the wake of the implementation of a more process-oriented approach to the curriculum, some teachers have foregone the use of a formal spelling program altogether, while others have steadfastly held on to their spelling workbooks and programs. Whether or not to teach using phonics, how to teach using a whole language approach, whether or not to use a list of words, which words to use, whether to teach directly or indirectly, are problems which have and continue to add to the confusion.

Parents have begun to question the lack of a weekly list of spelling words which they can help their children study. Some compare their success as spellers with that of their children and wonder why their children are not as successful. Some parents wonder if 'poor' spelling will influence their children's success in later life. They wonder why their children aren't spelling as well as they did when they were the age of their children, often forgetting the stages that they went through -- k, kt, kat, cat -- to arrive at successful, standardized spelling. As spelling has traditionally been one of the more visible aspects of education with which the parents have been able to help the children, the absence of spelling lists has caused some concern among parents. The discrepancies between the teaching of spelling in various classrooms have also been queried by parents, which, in turn, have lead to questions by administrators as well. There is much confusion and consternation surrounding the teaching of spelling in today's schools.

<u>Background</u>

Many researchers do not understand the confusion around spelling acquisition and spelling instruction. Leading authorities such as Fitzgerald (1953), Gill (1992), Hanna et al (1966), E. Horn (1967), T. Horn (1969), Nelson (1989) and Tarasoff (1992) are all of the opinion that spelling is one of the most researched subjects in Language Arts. Christine & Hollingsworth (1966) stated that "many studies concerning spelling instruction have been made in the twentieth century, yet many pupils have learned to spell incorrectly" (p. 565).

It has been suggested that teachers do not have an adequate theoretical background to be able to help children become conventional spellers (Gill, 1992; Nelson, 1989; Tarasoff, 1990). Fitzgerald (1951) said that the chief problem seemed to be that the results of research and investigation in spelling were not readily available to teachers. He seemed to think that many of the immediate spelling problems could be solved if teachers could or would use the available research findings. In the 1969 edition of **The Encyclopedia of Educational Research**, E. Horn concluded with, "the chief problem appears to be a more critical and universal application of the evidence available" (p. 1350). He felt that there was a preponderance of research but it was not being applied correctly or uniformly. Earlier, E. Horn (1944) had stated that "shortcomings in the teaching of spelling are therefore due not so much to the absence of satisfactory evidence as to the lack of knowledge of existing evidence, to the failure to apply it intelligently or to erroneous interpretations" (p. 6). Not only were teachers chastised but Fitzsimmons and Loomer (1971) also criticized the authors of spelling programs by stating that even though there was a wealth of research studies conducted in spelling, little of it seemed to have been incorporated into spelling programs.

Problem

With regards to the teaching of spelling, what does the elementary teacher **actually** know about effective practices in the teaching of spelling. Is the teacher knowledgeable about research-supported procedures in the teaching of spelling? Does the elementary teacher, in fact, use research-supported techniques when teaching spelling in the classroom?

This thesis is an attempt to (a) compile a list of research-supported teaching techniques, (b) ascertain which postulates a representative sample of elementary teachers used to teach spelling and (c) determine to what degree those procedures were used in their classrooms.

This chapter examines what we mean by 'spelling'. It looks at the function of spelling and the need for conventional spelling. The chapter finishes with a look at what some of the researchers consider to be a good spelling program.

What is Spelling?

It is generally agreed that spelling is a language-based activity and, because "language is functional, social and contextual" (Bean, 1987, p. 7), spelling can be described as functional, social and contextual. Spelling is writing down ideas and words which actually represent objects and thoughts (Tarasoff, 1992). This makes spelling a functional, utilitarian activity. The ideas and words which are represented using symbols can be interpreted and understood by others. Thus spelling serves a social function. Sometimes we write quickly, or just for ourselves, in our own form of 'shorthand' which does not necessarily require standard spelling for understanding. Thus spelling is also contextual.

Most researchers today agree that spelling is no longer considered to be simply a subject

to be memorized but " is being viewed as an understanding of the English writing system and a cognitive process that is learned over time and through experiences with words" (Tarasoff, 1990, p. 4). It is a developmental and intellectual process which involves learning to understand the workings of a system that "expresses meaning in systematic but complex and subtle ways" (Wilde, 1992, p. 14). Not only does a child's spelling indicate his exposure to and knowledge of words but it also indicates his understanding of the spelling system. This knowledge involves the integration of knowledge about individual words, common spelling patterns, relationships between sound and letters (Wilde, 1992). This integration is an interactive process which involves some misconceptions which must be worked through and other concepts which are being processed at varying rates and/or concurrently.

Two Types of Spelling

The contextual aspect of spelling determines whether the speller uses standardized spelling or his own form of 'shorthand'. When drafting a piece of writing, when making notes for oneself, or when making lists, it is not necessary to use the exact spelling of a word as long as we can determine the meaning of what we have written. However, a published piece of communication must have standard spelling if others are to be able to interpret and understand the message without being distrcted by the misspellings.

Why Do We Need to Use Standardized Spelling?

"The purpose of learning to spell is so that writing may become easier, more fluent, more expressive and more easily read and understood by others" (Gentry and Gillet, 1993, p. 57). The very fact that spelling is a functional and social activity implies that the words which are written carry a message which is intended to be interpreted and understood by someone else. Standard spelling makes the text more predictable for readers and thus the readers can focus more easily on the meaning without being distracted by misspell-

ings which may or may not alter the message. Standard spelling also makes it possible for the writer to record and deliver his message. Also, as one becomes a more proficient speller, one can concentrate more on the meaning of the written piece, rather than on the spelling of the individual words.

Buchanan (1989) not only looked at standard spelling as a means by which the writer can increase his ability to communicate but also looked at society's view that good spellers have increased prestige and acceptance by their peers because society tends to think of good spellers as being more intelligent. The success of schools is often evaluated by the spelling proficiency of their graduates. Gentry and Gillet (1993) also looked at the increasing ease with which we can communicate with other cultures around the world and pointed out that standard spelling is becoming increasingly more important if we wish to communicate adequately and accurately with people whose first language is not English. These people expect a certain standard spelling to a word and would only become confused by an 'invented' spelling.

What is a Good Spelling Program?

According to researchers, what does constitute a good spelling program? To Wilde (1992) a good spelling program provides

> ".......plenty of opportunities to read and write, chances to explore spelling patterns and an appropriate focus on editting..." (p.150)

To Hodges (1981), a good spelling program takes a multi-sensory approach, providing

> ".......visual activities, such as looking at configurations and providing proofreading activities, auditory activities such as rhyming, categorization by sound, listening to changes in stress and kinesthetic activities, such as writing and the use of textures" (p. 30).

To Zutell (1981), a good spelling program is not just a simple matter of enough drill work and/or rote memorization.

> "The development of spelling proficiency seems to involve
> both cognitive and linguistic processes and as such, it requires
> the active, exploring participation of the learner" (p. 64).

And to Hanna, Hanna, Hodges and Rudorf (1966) a spelling program

> "......encompasses a broad language study approach in which
> children develop a cognitive map of the powerful patterns
> and principles (phonological, morphological and contextual)
> by which we encode language" (p. 115).

If we accept the assertions of these researchers that a good spelling program must contain a wide range of approaches and strategies, incorporating a multi-sensory approach which includes the active, exploring participation of the learner, then our next question should be to ask what the goals of a spelling program should be. One of the spelling goals within education according to T. Horn (1960) should be to develop a spelling consciousness in children. This spelling consciousness would include strategies for attempting the spelling of unknown words. Another goal, according to Personke and Yee (1971) should be to acquire a large stock of words for which the spelling is automatic or at least cognitively familiar. Yet another goal, according to whole language proponents, would be to create fluent writers who are capable of transmitting their message clearly.

Thus, spelling serves to express and communicate one's ideas clearly, whether to oneself or to someone else. It involves the integration of knowledge about letter-sound relationships and spelling patterns, as well as knowledge about individual words. This process is continuous but is not always sequential. A good spelling program should incorporate a variety of editing, rhyming, categorizing, writing, reading and exploring activities.

Chapter 2 - Overview of Spelling Research and Literature

Introduction

This chapter outlines the available research and literature from 1900 to 1994 which pertains to the teaching of spelling. The research and literature pertaining to which words to teach, how children learn to spell, teaching strategies which influence spelling and the components of a good spelling program, were examined. Basically, the research into spelling acquisition and instruction falls into three categories: the "what" - what to study; the "who" - who and the acquisition of spelling; and the "how" - how to teach spelling.

Word Selection

High-Frequency Words.

In 1913, Jones compiled a list of 4,532 words commonly used in students' writing which he stated should be learned by those students. Thorndike (1921) and T. Horn (1969) concurred that students should study words with the highest frequency in written prose. E. Horn (1926) analyzed over five million words written by adults to compile a list of 4000 to 5000 words constituting a common core of frequently used words, which he said students should know how to spell. Rinsland (1945) and Fitzgerald (1951) analyzed these lists and concluded that 2000 words account for 95% of words used in children's writing and should therefore be learned. In 1965, after replicating E. Horn's study of most commonly-used words, Hollingsworth concluded that over that time span, only 16 words were less used in students' writings and therefore it was still a useful exercise to ask students to study highest frequency words. In 1977, Allred analyzed Rinsland's list of words and concluded that 1000 words accounted for 89% of all words that children use in their writing, 2000 words accounted for 95% and the top 3000 words accounted for 97% of all words children used in their writing" which emphasized their utilitarian function. Anderson (1990), Betts (1940), Booth (1991), Gentry and Gillet (1993), Recht, et al (1991),

Routmen (1993) and Voorhees (1985) all agreed that attention should be paid to both high frequency words and to words that children wanted to spell. However, if 2000 words account for 95% of all words used, then are not high-frequency words and the words that children want to spell often the same words? Dolch (1951) cautioned that frequency cannot be equated with familiarity. "Children speak and write about the things they have an opportunity to speak and write about, or about the things they are interested in or attracted to" (p.469). In other words, children often wish to learn words such as 'tyrannosaurus' and 'stegosaurus', which are definitely not high-frequency words but are words to which they are attracted. None the less, most of the evidence points to high word frequency being associated with good spelling. If students can spell the high-frequency words correctly, then 97% of their spellings will be correct.

" Demon Words".

It was rationalized that if we knew the elements which caused children problems with spelling, then teachers could call attention to these elements in an effort to make students aware of these problem areas. Jones (1914) and Breed (1925) developed lists of "demon" spelling words derived from formal classroom situations and letters written by children in informational situations. Fitzgerald (1941), Love (1941), Ayer (1945), Gray and Hach (1952), Herzberg, Guild and Hook (1952), Pollock (1954), Tessler and Christ (1955) and Warriner and Griffith (1957) all compiled lists of spelling "demons" derived from various sources. Furness and Boyd (1958) identified 98 spelling "demons" for high school and college students. All of these lists were remarkably similar in content if not in quantity.

Fitzgerald (1932) looked at 3,184 letters written by three elementary grades and derived a list of the 100 most frequently misspelled words. Johnson (1950) derived a list of 100 most frequently misspelled words. In 1951, Fitzgerald correlated the 100 words which were most frequently misspelled with the most frequently-used words and combined these form a list of 222 spelling "demons", because these words combined difficulty and frequency of use to account for a majority of children's spelling errors. Both these research-

ers stated that these should be taught directly to students. It was discovered, however, that "demon" lists which did not take into account frequency of use and difficulty could give misleading information as to which words children actually had trouble spelling. Lester (1964) supported this notion when he determined that if a word was used infrequently, it was more likely to be a "demon" word.

These 'demon lists' of Fitzgerald (1932) and Johnson (1950) have been used in various ways. Shostak and Van Stenbergh (1949) and Horn and Ashbaugh (1950) identified lists of spelling "demons" with a view to discovering the difficult parts of the words. This seems to be a shift as earlier, Masters (1927) and Mendenhall (1930) concluded that marking hard spots or looking at problem areas in words was of little or no value. Tireman (1927) also found that pupils who studied words, with hard spots marked, made poorer scores than those who studied lists with words unmarked. Rosemeier (1965) also concluded that marking hard spots was of little or no value. However, this did not deter many researchers from looking for the elements which made words difficult to spell.

Another way of dealing with 'demon lists' was through analysis of particular word features. Fitzgerald (1952) compared his lists and those of Swenson and Calwell (1948) and Johnson (1950) and found that capitalized words and possessives appeared consistently in "demon" lists. Pollock (1954) and Tessler and Christ (1955) tried to identify elements that made words difficult to spell. In 1955, Petty tried unsuccessfully to determine which phonemes contributed to spelling difficulty. In 1958, Kyte listed common misspellings for words and analyzed the errors causing misspellings. Gibson, Pick, Osser and Hammond (1962) determined that spelling errors occurred more often for a given sound-letter pattern when it ended a word than when it started the word which was consistent with Jensen's (1962) assessment that any phonetically difficult element was more or less troublesome depending on its position in the word. Thus, these researchers found that certain sound-letter patterns and their positions in words were more difficult to spell. These findings seemed to point to the need to teach these difficult elements, which contradicted the find-

ings reported in the previous paragraph.

Words From the Curriculum.

Some researchers believed that children's spelling lists should contain words of high-frequency or words which children wish to use in their writing. Beers (1981) maintained that the use of weekly spelling lists to be memorized appears to be of little value unless these lists come directly from reading material to which the child will be exposed and instructed in throughout the week. Buchanan (1989), Merrifield (1991) and Seda (1991) concurred with this view, stating that teacher-made lists of words, consisting of high-frequency words and words which the children want to spell, may be beneficial. "These words would be based on children's writing and selected vocabulary from content areas and would be selected for attention when they are misspelled" (Buchanan, 1989, p. 142).

Barone (1992), Fitzgerald (1951) and E. Horn (1926) disagreed with selecting words derived from different curricular areas because students don't assimilate the patterns within those words and don't generalize this knowledge. Seda (1991) also agreed that using words derived from the different curricular areas was of little value in promoting spelling ability as it still meant that students would have to memorize the words letter-by-letter. Templeton (1992) and Gentry and Gillet (1993) recommended that simply pulling new spelling words from literature and/or content areas, based on a theme, was not enough; unless the words were also related by sound or meaning pattern. In 1960, after conducting research on spelling using lists from curricular areas, E. Horn (1960) again declared that lists from curricular areas were of little value. In 1969, T. Horn agreed with this assertion.

How Do Students Learn To Spell?

In the last two decades cognitive learning theory, developmental learning theories and whole language approaches have come to the forefront of educational interest within spelling curricula. These theories are helping teachers understand how children learn, how they

acquire language and thus, how they acquire spelling skills. The emphasis is now very much on the learner and how the teacher can facilitate the process. A child's ability to internalize the complex English writing system is influenced by a myriad of external and internal factors. A few of these factors are explored in the following section.

Cognitive Learning Theory

According to Gentry and Gillet (1993), in order to reconceptualize spelling, we must realize that learning to spell is a complex process which entails both conscious and unconscious learning. The unconscious learning is effortless while the conscious learning is both directed and specific. This learning is said to be an individual process which proceeds at its own speed and degree of ease depending upon the child and a variety of internal and external factors.

Vygotsky's (1978) writings also give us an insight into this learning process. During the process of internalization of learning, the individual is changed. Previous experiences, perceptions and prior knowledge all interact with the new knowledge, shape it and in turn are shaped by it. Therefore, each child, being a unique individual with unique experiences, ideas and perceptions, will internalize concepts differently and will use them differently. Social interaction and modelling are essential to ongoing and further development. Vygotsky also emphasized that instruction is effective only when it proceeds ahead of development, when it awakens and rouses to life those functions that are in the process of maturing. Gentry (1987) agreed with Vygotsky, saying that when spelling is not taught socially, in interaction with reading, writing and other language arts, most children will see no purpose or use for it.

Visual, Auditory and Kinesthetic/Tactile Input.

Tarasoff (1992) described learning to spell in terms of sensory input. Sensations in the form of visual, auditory and/or kinesthetic/tactile input are perceived and attended to by the child. These are processed by the child and represented in the memory in the same

form as initially perceived. Therefore, if the child processes visual stimuli, it will be stored as a visual representation. If a child processes auditory stimuli, it will be stored as an auditory representation. However, Tarasoff cautioned that this representation would be lost if there were no rehearsal or active encoding at this stage. Black (1952) and Brown (1958) stated that students were more likely to hear correctly and therefore spell correctly, words of high frequency, i.e. those words they have had many opportunities to process visually, auditorily and/ or tactilely. The implication being that if teachers provide the students with a broad range of reading, writing, speaking and listening opportunities in which to use their spelling words, i.e. multi-sensory opportunities, they would be more likely to spell these words correctly.

Tarasoff also cautioned teachers that "more effective retrieval of information occurred if accessing a spelling of a word occurred through the same representational system as was used to encode it" (Tarasoff, 1992, p. 25). Visual memory contributes significantly to good spelling. When children encounter irregularly spelled words, they must rely on their visual memory. Fitzsimmons and Loomer (1977) stated that spelling ability is primarily based on a person's ability to perceive relationships between words, especially visual relationships. Therefore, since words are primarily visual stimuli, teachers must teach students to learn to visualize the words.

The use of multi-sensory approaches to the teaching of spelling was investigated by several researchers. Allred (1984) stated the visual memory, auditory discrimination and the sense of touch (including motion) played important roles in the spelling process. He wrote that those people who relied on all these elements were usually highly successful spellers; those who relied primarily on auditory discrimination were somewhat successful and those spellers who relied primarily on the kinesthetic element were usually learning disabled people. Voorhees (1985) found that children who learned to spell by use of the senses of hearing, sight and touch are in a good position to recall the spelling when they need it in their writing because any or all the sensory modes can elicit memory of it. Her

study using forty-three grade seven students resulted in the conclusion that a multi-sensory approach helped some students retain words for a longer period of time. Alemar et al (1990) reported that auditory/visual practice was superior to visual/motor practice on weekly spelling performance tests for seven elementary school learning disabled students. Norton and Land (1992), however, reported that using tracing and kinesthetic techniques to teach spelling to extremely poor spellers proved successful.

Tarasoff suggested that the brain will tend to ignore stimuli which it does not consider interesting, relevant or novel. McCracken and McCracken (1991) advocated a multi-sensory approach to teaching letters (name, sound, feel, way it's written) in order to keep the learning of spelling interesting. Henderson (1991) suggested employing visual and auditory stimuli by using such activities as grouping words around common features such as short vowels or beginning letters, or common blends. The majority of researchers seem to have advocated a multi-sensory approach to the teaching of spelling.

Developmental Stages of Spelling Competence.

The discovery that children's spelling errors are consistent and similar throughout the grades (Beers and Beers, 1991), led to a new approach to spelling acquisition and instruction; one which propounded that children acquired spelling strategies in a progression from sounds and speech to using visual and meaning relationships.

Liberman et al (1985) reported that spelling skills develop systematically as young children master the ability to analyze words into their constituent phonemes. The child's spelling progresses from scribbles to alphabetic representations of sound, to a recognition of word parts and syllables and then to less reliance on sounds and more reliance on visual memory ad meanings of words and word parts. At some point, the child's spelling strategies change from visual/auditory to visual/semantic. Thus a child's spelling becomes more sophisticated as it becomes less phonetic. The child becomes less reliant on sound and speech and more reliant on visual and meaning relationships.

Some researchers have attempted to separate the developmental sequence into stages. The chart on the following page attempts to compile some of the findings from various researchers to aid in the reader's understanding of these stages. Most show five stages of development but one shows six stages.

Cochrane et al (1984) saw five stages in the development of standard spelling: (a) The Prephonetic Stage, when we see the children using their rules to determine the length of a word; (b) The Phonetic Stage, when children start using letter-name strategies and articulation cues; (c) The Grapho-Phonic Stage, at which there is a sound/symbol correspondence in evidence; (d) The Transition, Phonic, Orthographic Stage, when letter sequences and patterns are used to determine the spelling of words; and (e) The Semantic/ Syntactic Morphemic Syntactic Stage, when children take morphological cues, derivations and inflections into account.

Henderson and Templeton (1986) listed the stages of spelling competence as being: (a) Stage I, the preliterate stage; (b) Stage II, at which time children begin to spell alphabetically, matching sound and letters, write left-to-right in a sequential fashion, recognize short vowel or beginning-consonant digraphs; (c) Stage III, when children spell short vowel words correctly , include a silent vowel letter and long vowels with silent letters, construct words in sequenced units, understand open/closed syllables, begin to deal with spelling and meaning, recognize prefixes and suffixes; (d) Stage IV, at which time there are still misspellings based on an incomplete understanding of several conventions that guide spelling where syllables join together and where affixes are joined to syllables; and (e) Stage V, when children recognize that related words are spelled similarly, and relate meaning and historical relevance to the spelling of words.

Gentry (1987) described the five developmental stages as : (a) Precommunicative Spelling, at which time the children go from scribbling to shaping letters and recognizing that

Table 1. Developmental Stages

Cochrane et all (1984)*	Henderson & Templeton (1986)*	Gentry (1987)*	Nelson (1989)γ	Beers & Beers(1991)η
Prephonetic	Stage I	Precommunicative	Pre-spelling	Prephonetic
Phonetic	Stage II	Semiphonetic	Phonetic	Early Phonetic
Grapho-Phonic		Phonetic	Within-Word Patterns	Phonetic
Transitional, Phonic, Orthographic	Stage III	Transitional	Syllable Junctures	Structural
Semantic/Syntactic Morphemic/Syntactic	Stage IV	Standard	Derivational	Meaning/Derivational
	Stage V			Correct Spelling

* from Tarasoff, Mary. (1992). *A Guide to Children's Spelling Development.* Victoria, B.C.: Active Learning Institute.
γ from Nelson, Laurie. (1989). Something borrowed, Something New: Teaching Implications of Developmental Spelling Research. *Reading Psychology: An International Quarterly,* 10, 255 - 274.
η from Beers, Dr. Carol S. and Beers, Dr. James W.Scott. (1991) In D. Booth (Ed.), *Spelling Links.* (pp. 25 - 36). Markham, Ont.: Pembroke Publishers, Ltd.

alphabet symbols represent words; (b) Semi-phonetic Spelling, when children use invented spellings and partially perceive and reliably represent the sounds in words; (c) Phonetic Spelling, when we see children represent all of the surface sound features of words; (d) Transitional Spelling, where a greater reliance is put on visual memory and less reliance on spelling words as they sound; and (e) Mature Spelling, at which time the English spelling system and its basic rules are understood, prefixes, suffixes, contractions and compounds, homonyms, silent letters and double consonants are mastered, irregular spellings are mastered and word origins are taken into account.

Nelson (1989) elaborated on Henderson's (1986) stages, naming them: (a) The Prespelling Stage, where children attempt to spell without any knowledge of sound-letter relationships; (b) The Phonetic Stage, where vowels appear consistently in a child's writing, with long vowel sounds taking precedence over short vowel sounds; (c) The Within-Word Patterns Stage, which signals a jump in the child's level of sophistication and the child gains knowledge that one sound is not necessarily only represented by one letter; (d) The Syllable Junctures Stage, which is similar to the previous stage but the child is now adding more consonants to preserve the vowel quality of previous syllables in multi-syllabic words; and (e) The Derivational Constancies Stage, at which time the meaning relationships between word segments help the child stabilize his spelling understanding.

Beers and Beers (1991) also described learning to spell as a developmental process. Their stages were labeled: (a) Prephonetic, describing the existence of no discernible letter-sound pattern in a child's writing; (b) Early Phonetic, at which time phonetically appropriate letters for a word appear and initial and final consonants are evident in the spelling; (c) Phonetic, describing consistent control with consonants, less control over short vowel sounds, word endings are phonetically represented; (d) Structural, at which time children begin to represent short and long vowels correctly but double consonants on endings are still confused, unaccented syllables and schwa sounds are misspelled; (e) Meaning/Derivational, when alternate forms of words are misspelled and frequent errors

in derivational forms exist; and (f) Standard Spelling.

Some of the researchers, although they supported the notion of developmental stages, did not try to label the stages as the researchers in Table 1 did. Schlagal (1989) and Anderson (1990) wrote that children learn spelling in an orderly, stage-like progression. They proposed that the English orthographic system is governed by three principles: spelling by sound, spelling by pattern and spelling by meaning. These principles seem to parallel the developmental spelling stages listed above. Furthermore, Schlagal stated that children's spelling errors can be divided into stages which follow the three organizational systems in spelling and thus parallel the developmental stages of spelling acquisition. Students will use certain strategies and understandings depending on their stage of development.

Schickedanz (1990) also looked at the strategies for word-creation used by students and, although she gave the stages different names, they represented the same stages as mentioned by Beers and Beers. Gill (1992) looked at the stages in the development of word knowledge and found substages within the stages suggested by Henderson, Wilde and Nelson. He suggested that there were many substages in the Phonetic Stage, such as initial consonant, syllabary awareness, focus on endings, then middle consonants, long vowels and then short vowel stages. Gill agreed that the stages were within-word patterns, a doubling principle and then an orthographic derivational constancy stage, i.e. meanings in word parts.

The Reading-Writing Connection.

One of the premises of the "whole language approach", as it came to be termed, was that spelling would not exist without writing, so spelling should be learned in context. Wilde (1992) believed that children should first focus on the whole, which is writing and should then move to mastering the parts, among which is spelling. Since writing encompasses spelling, any strategy, according to Bean and Bouffler (1987) , which gets children writing

"gives them a chance of learning to become standard spellers" (p. 33). Winterowd (1977) also said that students must become fluent writers before they can divert their attention to spelling. Bean and Bouffler (1987) , McCracken and McCracken (1991) and Merrifield (1991) maintained that without writing, there would be little purpose in learning to spell. Every encounter with language provides a demonstration of language and the way it is used.

Even though many researchers advocated that the interrelationship between reading and writing was sufficient to develop standard spelling, other researchers have advocated a more formal spelling approach to spelling instruction. Although Schlagal and Schlagal (1992) found correlations between spelling development and reading accuracy and reading fluency **and** between spelling and reading comprehension, Fries (1963) maintained that recognition responses (a form of decoding) required in reading differed sharply in nature and quantity from the production responses required in spelling. And although Beers and Beers (1991), Gentry (1987, 1991), and Tarasoff (1990) all stated that the teacher must provide many opportunities for the student to write, experiment, copy and watch because through these activities motor patterns and visual images would be established, Braun and Froese (1977) cautioned that language experience activities must be fused with a more formal approach to spelling instruction. And while Wilde (1992) stated that mere exposure to print through reading was an invaluable contributor to learning to spell many words, Groff (1979) admonished that what appears 'natural' for children in their attempts to spell words provided no special or inherently superior recommendation as to what children needed to be taught to advance correct spelling. Also, some spellers may be so successful in reading by partial cues that they never attend to the letter by letter structure of words. If so, it cannot be assumed that 'lots of reading' by itself will provide the necessary exposure needed to develop the word knowledge that must be the basis for the store of correctly spelled words.

Some researchers question whether there is, in fact, a difference between good and poor

spellers. Allred's (1977) research, however, did point out an important difference between good and poor spellers. He found that good spellers expressed their thoughts on paper freely, while poor spellers were hampered in their ability to communicate in writing.

It seems that a broad variety of reading and writing experiences makes it easier for the child to establish an understanding of spelling. However, it was also suggested that a broad variety of reading and writing experiences alone was not enough to ensure that a child became a good speller.

Motivation.

Motivating children is one of the basic challenges facing every teacher. If students are interested in a subject, they are motivated to do well, which makes the job of the teacher easier and creates a more positive attitude within the children. Since Columba in 1926, researchers through the decades have maintained how important motivation is to the learning behaviour of children. Braun and Froese (1977), Diserens and Vaughn (1931), Fitzgerald (1951), Forlano (1936), E. Horn (1960), T. Horn (1969), Russell (1937) and Sand (1938) have all stated that if the child experiences success, then interest is sparked.

> "A positive affective climate enhances intrinsic motivation, encourages risk-
> taking, provides the child with the energy needed to make efforts to learn,
> ensures development of a positive attitude and helps the student develop an
> image of being a 'good' speller" (Tarasoff, 1992, p. 16).

Personke and Yee (1971) admonished the teacher by stating that motivation, attitude and habits are a concern for the teacher in every aspect of the spelling program. If a method is effective in teaching a specific skill but at the same time destroys motivation to want to learn to spell or develops an attitude that spelling isn't worth the effort, it might be best to not use that method, no matter how effectively it advances skills on a short term basis. Intrinsic incentives for learning to spell, such as a positive attitude and interest in the

activity are preferred to the extrinsic incentives of stickers, stars, school grades and competition. Both Allred (1984) and Voorhees (1985) stated that stimulating students in spelling through offering rewards was a useless, or minimally helpful, practice in fostering the development of spelling skills.

'Whole language' proponents have stated that children would actively engage in the learning of spelling if they were interested, motivated and saw a purpose for learning standard spelling. Both Gentry (1987) and Wilde (1992) believed that invented spellings implied that writers were actively involved in their own recreation of written language. This allowed them to demonstrate their acquired skills. However, invented spellings did not necessarily lead to standardized spelling if children saw no purpose in learning standardized spelling. Students needed to recognize that certain circumstances demanded standardized spelling. If students acknowledged that standardized spelling made it easier for them as readers to understand the message and if they wished to transmit a message, they would be more likely to attempt to use standardized spelling.

One researcher went so far as to list those activities which would motivate and interest the student speller. These would be: (a) selected exercises in textbooks, (b) writing in functional situations, (c) creative writing and (d) playing word games (Ediger, 1975, p. 146). Peer tutoring was also mentioned as a highly motivating activity.

Perhaps, the most tragic example of the power of motivation is the difference in self-confidence between good spellers and poor spellers. "Good spellers believe they are good spellers and are confident in their ability. They are willing to risk and are flexible...whereas poor spellers tend to believe they are poor spellers and they lack confidence and willingness to risk" said Tarasoff (1992, p. 32). When poor spellers are asked to spell an unfamiliar word, they feel uncomfortable, fidget, look down, look to the side, or feel embarrassed. This lack of confidence will severely affect a poor speller's willingness to try spelling new words and will also hinder the student's ability to learn new strategies

because they are convinced that they are unable to learn these new strategies. Children cannot be expected to learn to spell, or even to risk making spelling mistakes, if they have a poor self-image.

Teaching Formally or Informally.

From the research examined thus far, it appears that spelling is a developmental process, unique to the individual child but following some predictable stages. But how do teaching techniques influence the child's acquisition of spelling? Should the teacher employ formal or informal teaching techniques? What does this mean?

For the purposes of clarity, we should look at the definition of formal or informal instruction. Informal instruction refers to the teacher incidentally pointing out spellings, patterns and so on, while the child is involved in reading and writing activities. The teacher may at any time, based on the child's performance, decide to explain a strategy or point out relationships to one child or a group of children. Formal instruction refers to a more structured approach. The teacher sets appropriate goals, decides on an activity and guides the class or group through a lesson. A scope and sequence design strategy is applied to the teaching of spelling.

Bean and Bouffler (1987), Gentry and Gillet (1993), McCracken (1991), Merrifield (1991) and Preen (1991) all said that without writing, there would be little purpose in learning to spell. These researchers stated that the proper place for spelling instruction was within the writing program. Whether given formally or informally, Tarasoff (1992) also believed that the knowledge of spelling must be presented in the context of meaningful oral and written language activities.

Preen (1991) stated that every opportunity should be taken to teach at the point of immediate need. She believed that much of the information that children learn about the English system is not learned in a formal setting but rather, like McCracken and McCracken (1991),

she believed that children intuit and abstract a system of rules and generalizations about the patterns in spelling. As teachers look at children's invented spellings and spelling errors, they should use this information to help students learn about spelling patterns, rules and generalizations. This implies a less formal approach to the teaching of spelling. However, besides using individual conferences, Preen did not rule out using small-group and whole-group lessons to make children aware of personal learning strategies, as long as the lessons were closely related to class reading, writing and handwriting.

Merrifield (1991) also believed in a 'whole language' approach to teaching spelling within the context of reading, writing and specific spelling experiences. He believed that children should be given many opportunities to write, should be encouraged to invent spellings and should be taught according to their needs. This might be accomplished by using activity centers, spelling games and spelling lists which grow out of the current interests of the children. Usually, these lists of words would not have any unifying components, which would seem to indicate that Merrifield did not think it was necessary to have groups of words with the same patterns in order to form generalizations. However, he did state that it was a good idea to help children form generalizations by themselves but not teach them directly. Like McCracken and McCracken (1991) and Preen (1991), Merrifield also believed that the generalizations that children discovered for themselves stayed with them longer.

As we've already seen, McCracken and McCracken (1991) also believed that daily writing was important because spelling is a language skill which must be taught in immersion. However, they maintained that children, in small groups, needed to be taught spelling about five minutes a day in order to practise phonic generalizations which helped galvanize the intuitive rules which they formed. Schickedanz (1990) also believed that the knowledge about phonemic segmentation seemed to prompt children's independent, phonemic-based spelling. Ball and Blachman (1991) and Griffith (1991) also strongly supported the early development of phonemic awareness in Kindergarten and Grade 1 and this

implies that a more formal spelling program must be employed in order to develop early phonemic awareness in children.

For poor spellers, Recht, et al (1991) and Varnhagen, et al (1992) advocated additional instruction in spelling-sound correspondence rules. Using word families and comparisons between phonologically predictable and unpredictable words might also be of benefit. Also, explicit strategy instruction might enable poor spellers to learn needed strategies and to achieve better use of them (Block, 1990). Personke and Yee (1971) stated that the child in the 'average or low-average intelligence quotient ranges' would profit most from direct instruction in generalization. Instruction in spelling-sound correspondence rules implies direct teaching by the teacher.

Progressing along the continuum from informal to formal practice, we find many earlier researchers who advocated a more formal approach to teaching spelling. Fitzgerald (1951), E. Horn (1944, 1954, 1960) and T. Horn (1969) asserted that a systematic approach should be taken to teaching spelling. E. Horn (1952) stated that incidental learning should be supplemented by direct, systematic teaching, especially in the case of difficult words — those words which do not conform in their spelling to any phonetic or orthographic rule. Later, Gentry (1987) did not believe that spelling was incidental. He said that spelling should be taught formally to supplement what kids learn about spelling through reading and writing. Liberman et al (1985) also stated that "the ability to stand back from one's language and analyze its structure apparently does not develop naturally as a result of cognitive maturation. It must be learned or taught" (p. 80). Groff (1986) wrote that re-searchers of developmental spelling presented no evidence that children's self-directed discovery of how to spell words correctly resulted in statistically significant greater gains in spelling achievement than did the direct and systematic teaching of spelling. Also advo-cating an efficient, systematic technique to study unknown spelling words, Hillerich (1982) stated that allowing students to devise their own methods for studying spelling was not advisable.

In 1965, Allen and Ager wrote that spelling is an independent skill and should receive specific attention and instruction in the school curriculum. Cronnell (1978) agreed, stating that " the generally greater complexity of spelling suggests the need for careful construction of any spelling instruction for use in the schools" (p. 340). Braun and Froese (1977) maintained that language experience activities must be fused with a more formal approach to spelling instruction. Henderson and Templeton (1991) advocated a more formalized program of instruction. They believed that a "spelling curriculum with the proper scope and sequence presented in a list format afforded the opportunity to study words, to make discriminations and to practise routines of examining words" (p. 61). Although they advised that ample time should be provided to write creatively and purposefully, Henderson and Templeton (1991) stated that words from readings and sight words should be carefully selected and be put into short lists to be memorized! However, rote memorization is not considered a very effective way in which to learn to spell. Henderson and Templeton also advocated starting a formal spelling program in Grade 1. Allred (1993) also suggested that whole language instruction, or literature-based instruction, should be integrated with established spelling practices such as a direct study of a basic core of vocabulary, application of proven study steps and the implementation of formal spelling instruction.

The debate over whether or not spelling should be taught informally or formally, can be traced back over the last thirty years. After looking at prior research, T. Horn (1969) stated that there was no field-tested substitute for direct instruction on the basic core of high-frequency words needed in child and adult writing. Allred (1984), Bennett (1976), Blair (1976), Groff (1986) and Uhry (1991) all maintained that formal teaching styles resulted in significantly greater gains in pupils' spelling skills than did informal methods. The assumption that direct instruction could not significantly affect the child's progress through developmental stages was not supported by research . Groff and Tarasoff also stated that the belief that not requiring standard spelling speeded up acquisition of correct spelling, more than requiring it, had no basis in research. Wilde (1992) maintained that the formal study of word lists was a reasonable part of the spelling program as exploring spelling patterns

that bring some sense of order to the English language is a profitable activity. She stated that pulling together small groups of children who were ready for mini-lessons on specific topics would be the most effective form of instruction, particularly for lessons on developmental features and rule-governed orthographic patterns. And Liberman et al (1985) stated that more and earlier training in all aspects of linguistic sensitivity - phonological and morphological knowledge - might promote better spelling and should be encouraged.

Templeton (1991) admonished teachers to use a more formal approach to spelling because if teachers only held students accountable for the words they misspelled in their writing, "they would prevent students from discovering and exploring the rich network of structural and semantic relationships among words—relationships that are important not only for correct spelling in writing but also because they ultimately lead to an increase in students' vocabulary knowledge, reading efficiency and writing fluency and expression" (p. 199). Many students do not notice the patterns in the English orthography and thus teachers need to help students acquire conscious strategies for analysis and generalization.

In 1986, Groff eloquently stated the case for resisting discontinuation of formal spelling instruction. He maintained that: (a) the research from which whole language implications are drawn is not conclusive, (b) there is substantial research to support the contention that phonics instruction results in more gains in spelling than non-phonetic approaches, (c) the belief that not requiring standard spelling accelerates acquisition of correct spelling more than requiring it has no basis in research, (d) there is substantial evidence to support superiority of direct instruction over indirect instruction and (e) the assumption that direct instruction cannot significantly affect the child's progress through developmental stages is not supported.

Throughout all this review of the research, we see that although every attempt should be made to teach spelling in context, most researchers felt that a more formal spelling pro-

gram of instruction should also be in place in the classroom. The following section now deals with inductive and deductive teaching strategies and how these strategies influence the decisions on how to teach spelling.

Inductive Versus Deductive Teaching Strategies.

Personke and Yee (1971) stated that using inductive teaching strategies such as helping children discover useful generalizations for themselves was a very meaningful and motivating activity to children as it tended to be more active, lively and student-oriented. Advocating this active, exploring participation of the learner, Zutell (1981) asserted that learning to spell was not simply a matter of enough drill work and/or rote memorization but involved both cognitive and linguistic processes which require active participation or inductive learning. Zutell went on to say that teachers should construct learning environments in which children have the opportunity to formulate, test and evaluate their own hypotheses about English orthography. These inductive learning activities encouraged and stimulated natural language use through extensive speaking, reading and writing. Gentry (1987) and Wilde (1992) felt that purposeful writing gave the student a chance to think about spelling by engaging them in the process of spelling. Thus, invented spellings implied that writers were actively involved in their own recreation of written language.

Dobie (1989) maintained that effective teachers encourage students to pursue the study of spelling inductively by encouraging students to analyze their mistakes and write their own 'rules'. McCracken and McCracken (1991) and Preen (1991) said that these intuited rules were rarely applied incorrectly and according to Merrifield (1991), stayed with the students longer. Wilde (1991) also said that it was the teacher's responsibility not to teach spelling directly but to provide opportunities for the students to be exposed to as much language as possible so that the students would formulate their own rules. The inductive learning of rules and generalizations in connection with words to which they are applied was also advocated by Braun and Froese (1977), even though these writers had earlier called for direct spelling instruction.

However, Block (1990) felt that poor spellers would benefit from explicit strategy instruction as they would learn needed strategies and would learn to put these strategies to better use. Templeton (1991) also stated that whether deductively or inductively presented, strategies for examining words should be made explicit for children at some point within the lesson or unit. This is probably the key point, as there should be a monitoring process in effect to ensure that the students are not conjuring up erroneous rules and generalizations. Although McCracken, et al and Preen stated that intuited rules were rarely applied incorrectly, these intuited rules are usually arrived at only with the direct and explicit help of teachers.

It is a truism that inductive activities are more motivating for children and concepts, under these conditions, are grasped easier. Therefore, these techniques should be used frequently by teachers in the classroom, as long as there is a monitoring process in place. The next section in this review examines the research and literature pertaining to spelling strategies as they apply to teaching spelling to children.

Spelling Strategies.

Marsh et al (1980) and Read and Hodges (1982) studied the spellings of young children and found that children developed strategies which they used systematically and predictably to help them spell. Beers and Beers (1981), Beers and Henderson (1977), Clay (1975), and Gentry (1981) believed that children went through a developmental process quite similar to the process for learning oral language. This progress proceeded through predictable stages indicative of their cognitive strategies and linguistic awareness. Thus the process of learning to spell and the process of learning oral learning language were seen as being very similar.

Bean and Bouffler (1987) said that the kinds of strategies teachers encouraged students to use would depend on the students' current level of knowledge and use of strategies

and their particular stage of development. " As students predict how to spell words, there are periods of time when they are more likely to depend on certain cues than others, holding on to some cues from the past and experimenting with new ideas from the next stage" (Buchanan, 1989, p. 11). According to Buchanan, children not only build on previous spelling knowledge as they progressed through the stages, they often also moved back and forth between two stages, using strategies or cues from both stages. It seemed that although the knowledge and strategies, which might be used to spell words, could be described, they could not be laid out in definitive successive steps of acquisition. "A representative sample of any one child's writing at one point in time is likely to show a variety of patterns" (Wilde, 1992, p. 161).

Researchers have looked at the strategies good spellers use. Hodges (1982) observed that older children who were good spellers had a word building knowledge; they used strategies involving a use of analogies. Tarasoff (1992) and Wilde (1992) also found that good spellers were more likely to spell by analogy rather than phonetically. These spellers seemed also to be aware of alternative spellings. Gentry (1987) and Wilde (1992) stated that good spellers had an ability to store and retrieve the visual form of the word in their brain; they had a memory capacity for visual images of words. Anderson (1990) stated that these particular strategies were more sophisticated, as they tended to rely less on phonetic relationships and more on semantic relationships. Seda (1991) found that good spellers applied common English spelling patterns more often than poor spellers. This research said, in essence, that good spellers had good analogy strategies, had a good awareness of alternative spellings, had a good visual memory of words and applied common English spelling patterns.

What did the research say about the strategies that poor spellers used? Poor spellers seemed to rely more on rules of letter-sound relationships. Anderson (1991) and Wilde (1992) found that poor spellers were locked into a limited number of strategies which relied on phonological or surface level information. They tended to sound out spellings,

phoneme by phoneme, or in some cases even displayed a total lack of knowledge of sound/symbol relationships. Children with an inadequate base in word knowledge relied heavily on rote memorization to learn assigned words, according to Schlagal and Schlagal (1992). The use of this strategy alone, they said, would lead to little retention, to no understanding and would inevitably lead to more and more frustration as the student encountered ever more complex spelling structures. In a study of adults who were poor spellers, Liberman et al (1985) found that these adults had only the 'dimmest' understanding of the phonemic structure of words and that memorizing words in their entirety was a favoured strategy. This was shown in several other studies (Tarasoff, 1992; Varnhagen and Das, 1992). In these studies, it was also found that poor spellers had few effective strategies for spelling words, such as using a visualization strategy. Poor spellers lagged behind in naming letters and word reading. Wouldn't it then stand to reason that teachers would try to teach those strategies which good spellers use to the poor spellers?

The research then, tends to show that good spellers have more sophisticated and varied strategies for attempting the spelling of new words. Some researchers looked at 'when' to teach the strategies which good spellers employed. Bean and Bouffler (1987) said that the kinds of strategies teachers encouraged students to use would depend on the students' current level of knowledge and use of strategies and their stage of development. "As students predict how to spell words, there are periods of time when they are more likely to depend on certain cues than others, holding on to some cues from the past and experimenting with new ideas from the next stage" (Buchanan, 1989, p. 11). According to Buchanan, children not only built on previous spelling knowledge as they progressed through the stages, they often also moved back and forth between two stages, using strategies or cues from both stages. It seemed that although the knowledge and strategies, which might be used to spell words, could be described, they could not be laid out in successive steps of acquisition. "A representative sample of any one child's writing at one point in time is likely to show a variety of patterns" (Wilde, 1992, p. 161).

Many times, the literature focused on strategies which would help students to remember the spelling of words, such as mnemonic and multi-sensory strategies . Anderson (1990), Dobie (1989), Preen (1991) and Tarasoff (1992) all urged the use of mnemonic devices to remember the spelling of words. Zylstra (1989) advocated teaching children to use a multi-sensory spelling strategy in order to learn the spelling of words — see, say, spell, write, check, repeat. After using this approach with nine Special Education students, Murphy, et al (1990) also contended that spelling improved using the "copy-cover-compare" strategy of studying new spelling words. Allred (1984) stated that this essentially three-stage method had eight essential steps: pronounce the word, look at each part of the word, say the letters, visualize the word and spell it, check this attempt, write the word, check the spelling, repeat if necessary. McCracken and McCracken (1991) also said that spelling should be taught using a multi-sensory approach to teaching letters (name, sound, feel, the way it's written). Working with seven learning disabled students, Kearney and Drabman (1993) introduced them to the write-say method. All seven subjects improved greatly in their spelling ability. Thus, the research suggests that certain strategies, such as the use of mnemonic devices and the use of a multi-sensory spelling strategy, improved spelling ability.

As the research has shown, good spellers were able to use visual strategies to spell a word, which supported Fitzsimmons and Loomer's (1977) findings that spelling ability was primarily based on a person's ability to perceive relationships between words, especially visual relationships. Gentry (1991) supported this assertion by stating that children should be taught to visualize words. However, earlier on Bloomer (1959) had warned that visual strategies should not take the form of learning the configuration of words, which is superfluous in the mastery of spelling skills.

As researchers became more aware of skills and strategies, they attempted to determine where the strategies fit along the developmental continuum. Templeton (1991) said that a spelling or a word-study scope and sequence should be arranged to reflect the develop-

mental stages in the acquisition of spelling in order that letters, within-word vowel phonograms, syllable patterns, roots, affixes, inflected endings, foreign words and meaning relationships would become apparent to the student. Henderson and Templeton (1991) quoted developmental theory as the validation of the skills teachers should teach and a rationale for the pacing and maintenance of instruction in a more detailed and clearly stated manner than before. Barone (1992) and Templeton stated that the kinds of strategies teachers encouraged students to use would depend on the students' current level of knowledge and use of strategies and their stage of development. Many of the researchers believed that teachers should be aware of the developmental stages in the acquisition of spelling and that an analysis of the child's writing and knowledge about spelling would help the teacher to direct the child to the appropriate strategies.

Phonics

Always, phonics enters into issues of language skill development, be it reading, writing or spelling. In the English language, spelling is based on the alphabetic system; that is, the sounds of the language are generally represented in writing by letters of the alphabet. In a language that uses an alphabet, phonemic awareness is essential for decoding and spelling words. Phonemic awareness involves knowledge of the component sounds in words, whereas phonics involves recognizing and using letter/sound relationships to decode or spell words. Thus phonemic awareness is a prerequisite to being able to use phonics. Critics of phonics instruction believe that the spelling of English is not predictable enough to make the application of phonics rules useful. These detractors said that the evidence about phoneme-grapheme correspondences as potential cues to spelling improvement did not ensure that the use of phonics would lead to error-free spelling. Also, because of the diverse origins and influences upon the English language, these same people argued that there was no consistency in spelling and therefore one should teach spelling on a word-for-word basis. These people would agree with the old saying of Fries' (1963) that the English language was spelled 85% regularly and 15% irregularly but unfortunately we

use those fifteen percent of the words, 85% of the time in our day-to-day correspondences.

Many researchers have questioned whether the English language was based on any underlying letter-sound consistency. Earlier on, Archer (1930), Foran (1934) and Sartorius (1931) maintained that teaching by phonic rules was questionable at best because there was no underlying phoneme-grapheme consistency in the English language. But in 1953, Hanna and Moore analyzed over 10,000 words and found that three-fourths of the vowel phonemes were spelled by their regular letter representations from about 57% to about 99% of the times they occurred. And then, E. Horn (1957) complicated things by studying 10,000 words phoneme-grapheme correspondence and cast doubts on the theory of phoneme-grapheme regularity by stating that spelling-to-sound correlations were not high enough to have any practical utility. By 1964, after studying over 10,000 words, Dolby and Resnikoff discovered that English orthography was, after all, unexpectedly regular, supporting the work done earlier by Hanna and Moore and later on by Hanna, et al. In 1966, Hanna, Hanna, Hodges and Rudorf conducted a major spelling research project. In the first phase, they examined the consistency of phoneme-grapheme relationships in 17,000 words. In the second phase of their study, they programmed a computer to spell the 17,000 words according to the information gained from the first phase. They devised a set of rules that resulted in very accurate spelling, which pointed to a very high degree of phoneme-to-grapheme correspondence and supported the idea that the English language had indeed a high underlying degree of letter-sound consistency. However, the controversy seems to have abated with Venesky (1967) and Solomon and MacNeill (1967) both agreeing that there existed a high degree of phoneme-to-grapheme correspondence in English.

Other researchers questioned the advisability of teaching phonic rules. After conducting some research with elementary school classes, Jackson (1953) stated that teaching by phonic rules was questionable because there was no statistically significant increase in spelling achievement found between students receiving extra phonetic instruction in spell-

ing and students in classes acting as controls. E. Horn (1954) criticized the study done by Hanna and Moore, stating that the limited success in attempts to teach pupils to learn and apply even a few phonics rules suggested that we should not be too optimistic about the practicability of teaching the more numerous and complicated rules or principles in phonics. Flesch (1955), added to the controversy and cited the outcome of his research that found that 13% of all English words were partly irregular in their spelling but that the other 87% follow fixed rules, which seemed to suggest that teaching phonics rules would have some usefulness. Again, though, we must remember Fries (1963) who stated that unfortunately we tended to use the irregular words far more frequently in writing than we did the regular words. And again, Hahn (1960) who conducted research with students in grades three through six, found that the additional teaching of phonics in reading produced no significant differences in spelling errors compared to results obtained from pupils in similar grades who received no phonics instruction. Once again, E. Horn (1960) stated that teaching by phonics rules was questionable.

However, in the 1960's, research started to evolve in favour of teaching children phonics. In 1961, Hall conducted research which supported the early teaching of letter/sound correspondences and applying these to graded word lists on variables of regularity and difficulty (i.e. from more regular to less regular correspondences between letters and sounds). In 1963, E. Horn stated that even though the evidence was meager on some important matters, it seemed to justify considerable emphasis upon phonics, which was almost a complete turnaround from his earlier assertions. However, E. Horn cautioned that this instruction in phonics should be regarded as an aid to spelling rather than as a substitute for the systematic study of the words in the spelling list, which was a centre post of his earlier construct. Hodges and Rudorf (1965) contended that putting more emphasis on the instruction of phonic relationships might be more valuable than the usual 'drill' method and perhaps a more balanced perspective toward the total program should be maintained because the English orthography was a far more consistent reflection of spoken language than had been assumed.

Hockett (1965), however, added to the controversy over whether or not the knowledge of the regularity of the spelling-to-sound correlations within words would contribute to understanding spelling, stating that English words were not a simple and direct representation of the spoken words, since there were too many cases in which the spelling was not predictable from the pronunciation. T. Horn (1969) and Petty (1969) also questioned the teaching of phonics within a spelling program because phonics did not result in error-free spelling and its use might muddle the learning technique for most pupils. Supporting the case for phonics instruction, Cramer (1969) stated that instruction in phonics of various types did provide some help in spelling achievement.

By the end of the 1960's, the debate then began to center around the importance of phonological principles to spelling competence. Yee (1966) reviewed the question of whether or not competence in spelling could be increased by using phonic rules based on consistent phoneme-grapheme correspondences. He concluded that the controversy was not about whether useful generalizable sound-to-spelling correspondences actually existed, for unquestionably they do. Rather, the debate was about the importance of phonic principles to spelling competence. Personke and Yee (1971) found that the ability to apply phonic generalizations, while not infallible, was a valuable asset in spelling because phonic instruction alone might provide students with some preparatory process to attack unfamiliar words and thus help them perform slightly better. They found that when they compared the spelling of Scottish and American children, the Scottish children exhibited superior spelling. What was the difference in their schooling? Personke and Yee found that the Scottish children received phonic spelling instruction. For a few years after this study, many of the researchers (Baker, 1977; Block, 1972; Dunwell, 1972; and Schwartz, 1976) were inclined to agree that phonics instruction had a positive effect on spelling. Rodgers, Covell and Slade (1978) also wrote that children's knowledge of phonics did play a useful role in their attempts to spell unknown words and was an essential element in the process called 'inventive spelling'. Chomsky (1979) believed that the orthographic system of American English was more regular than commonly thought. This consistency allowed the speller

to deduce the spelling of one word by generalizing on the basis of knowledge of the spelling of related words. Groff (1979) said that it could be shown that the use of phonic rules for spelling led to the spelling of almost 90% of words with a maximum of one spelling error per word. Therefore, Groff stated, an early and intensive influence of phonic instruction on children's 'natural' spellings would accelerate the abandonment of "bizarre" spellings.

However, cognitive learning theory and the 'whole language' movement both began to influence the thinking of researchers. Gentry and Henderson (1978) cautioned that learning to spell was not simply associating sounds to letters. Groff (1979) compromised by saying that children could be taught systematic phonics for spelling purposes and at the same time be stimulated to develop spelling strategies that proved personally useful. Bohen (1980) analyzed student misspellings revealing predictable patterns of errors. The major problems in misspellings, identified by Bohen, resulted from phonetic inconsistencies and soundproof spelling patterns, such as "tion". Morris (1981) advised that formal phonic instruction be delayed until beginning readers first developed a firm concept of 'word'. Once a concept of word had been acquired, a sensible phonic or word study approach might be beneficial to the beginning reader and speller. However, Zutell (1981) cautioned that classroom practices like extensive phonics drills and the typical weekly spelling list-test cycle hardly encouraged essential active participation and concept formation (re: cognitive learning theory).

By the late 1980's, researchers were once again supporting formal phonic instruction. Cushenbery (1986) agreed with the earlier work of Flesch (1955) that 86% of words were phonetically regular and therefore students needed the knowledge and the ability to make the proper association between phonemic and graphemic elements of English language. Paulu (1988) found that children who were taught phonics got off to a better start than those who were not taught phonics and therefore, he felt children should learn phonics early. This view corroborated what Personke and Yee (1971) advocated. Paulu, however,

cautioned that children should only be taught the most important and regular of letter-sound relationships using inductive teaching techniques. Groff (1989) conjectured that perhaps an inherent intolerance for phonics teaching simply reflected a lack of knowledge on the part of teachers about the subject. To be effective, said Groff, phonics instruction should be direct, systematic and intensive, should begin early and should be explicit.

Also, supporting a systematic, direct spelling curriculum, Weber and Henderson (1989) stated that children needed a high degree of knowledge of vowel patterns which for the majority of students could only be achieved with the help of the teacher. In a study with primary-aged children, Foorman et al (1989) found that the phonics group read aloud and identified more words correctly than the whole word group but the reading groups didn't differ in spelling achievement. However, in a follow-up study with eighty grade one children, Foorman et al (1991) found that those children with more letter-sound instruction showed overall improvement in spelling and reading. Liberman et al (1985) found that the children who were better spellers in the class exhibited more efficient skills in analyzing the phonemic constituents of words.

Schickedanz (1990) also showed that knowledge about phonemic segmentation seemed to promote children's independent, phonemic-based spelling. Griffith and Klesius (1990) studied first graders and found that high phonemic awareness children outperformed low phonemic awareness children on spelling tests. They also found children who started school high in phonemic awareness were generally at an advantage in a whole language classroom.

Lie (1991) stated that training of phoneme isolation (positional treatment) and/or phoneme segmentation (sequential treatment) had a facilitating effect on both reading and spelling achievement. In a study of elementary students, Ball and Blachman (1991) also found that kindergarten children who received segmentation training plus letter-name and letter-sound instruction spelled significantly better than either the language activities group or the con-

trol group. Ball and Blachman (1991) and Voorhees (1985) said that a relationship existed between phonemic awareness skills and success in the beginning stages of both reading and spelling. Therefore, they strongly supported the early development of phonemic aware- ness in Kindergarten and Grade 1. They even went so far as to say that if students were not provided with phonics, they would have weaknesses which would hinder the develop- ment of automaticity and decoding speed, which in turn affected comprehension.

McCracken and McCracken (1991) stated that phonics was the major skill used in learn- ing to spell and that children needed to be taught spelling "about 5 minutes a day in order to practise phonics which helps galvanize the intuitive rules which they form" (p. 84). Gentry (1991), Griffith (1991) and Henderson (1991) all stated that phonemic awareness should be taught at an early age but students should still be encouraged to invent spellings as well. Schlagal and Schlagal (1992) found correlations between spelling development and accuracy and fluency of reading and spelling and comprehension. They also stated that difficulty in decoding words might suggest inadequate knowledge of sound/symbol prin- ciples which supported Recht, Caldwell and Newby's (1991) contention that perhaps ba- sic phonological deficiencies might be the underlying cause of a student's difficulties in reading and spelling words.

As we can see, there is substantial research to support the contention that phonics in- struction as an aide in learning to spell. As well, many researchers advocated the teach- ing of phonics as soon as students had developed a 'sense of word'. It was rather discon- certing, however, for me as a practising teacher to see such researchers as Gentry, Henderson and Templeton, who were at one time such strong whole language/ invented spelling supporters, now altering their views and advocating direct instruction, phonemic segmentation and phonics instruction, things that were anathema to them a short while ago.

Spelling Rules

Because it was at one time thought that English orthography was very inconsistent, early researchers maintained that teaching spelling rules as questionable or not practical (Fitzgerald, 1951; E. Horn, 1919, 1951, 1957). Even after the famous study by Hanna, Hanna, Hodges and Rudorf in 1966, the debate raged on about the practicality of spelling rules. T. Horn (1969) maintained that teaching spelling rules was not practical because there were too many exceptions to the rules and his position was typical of those opposed to teaching spelling this way.

Personke and Yee (1971) revisited Turner's 1912 research, which reported that 16 students taught by the method of direct drill without reference to spelling rules produced superior results compared to the results obtained from another group of 16 students taught with reference to spelling rules. Personke and Yee cited Lester's 1917 research which contradicted Turner's research and stressed the helpful and shortcut nature of common spelling rules. Therefore, Personke and Yee decided that spelling rules should be taught but taught only as necessary tools. Personke and Yee then cited Arthur's 1931 report and stated that the teacher must recognize that the question as to how a rule is taught is just as important as what is taught. The rule should be developed in an inductive manner and should be taught in such a way that it would function in the words to be spelled.

Some researchers felt that the teaching of spelling rules was a 'necessary evil' and should be taught judiciously. Simon and Simon (1973) urged the teaching of spelling rules because students "need rules and even then will produce spelling of low accuracy" (p. 119). Cushenbery (1986) also cautioned that phonics and common structural analysis generalizations have only limited value and therefore the selection of generalizations to be taught should be restricted to thosewith a high level of utility. Bean and Bouffler (1987) stated that sometimes there was a need to directly teach a spelling rule but for the most part, it was an 'unnatural approach' because teaching directly did not actively involve the child in

the learning. This viewpoint reflected Personke and Yee's (1971) earlier assertion that the rules should always be taught inductively.

The debate about whether or not to teach spelling rules has continued into the 1990's. In 1991, Tarasoff wrote that children should not be taught rules but rather they should be taught spelling patterns. The opposing view is reflected in the writings of Allred (1984), Anderson (1991) and Hillerich (1982) who felt that children needed explicit instruction in some of the frequently-used rules concerning affixation. Darch and Simpson (1990) working with twenty-eight upper elementary learning disabled students, found that , on unit tests, post-tests and standardized spelling tests, those taught spelling with explicit rule-based strategies outperformed students who had been taught a visual imagery or mnemonic strategy. Also in 1991, Antonelli reported the results from her study in which the mean spelling scores of the experimental group receiving rule-based instruction were higher than the mean scores of the whole language control group.

Even though there is still controversy surrounding whether or not to teach spelling rules, the majority of researchers felt that it is a worthwhile endeavour and that the spelling rules which are taught should be those which have a high level of applicability.

Importance of the Teacher

In recent research, it has been pointed out that the teacher plays a very crucial role in a student's acquisition of standard spelling. Some researchers maintained that students would achieve to the level that the teachers expected. In other words, if teachers tolerated their students' poor spelling, the students would meet this rather limited expectation. Similarly, if teachers expected their students to be good spellers, they would meet this expectation. Cushenbery (1986) stated that teachers should role model appropriate spelling strategies and expect correct spelling for, "the degree to which a teacher expects correct spelling of words on daily assignments will dictate the level of attention which the pupils

will give to this skill" (p. 91). Groff (1986) agreed that teachers' demands for correct spelling had positive effects on pupils' spelling achievement.

Tarasoff (1990) stated that there was nothing inherently effective or ineffective about formal or informal instruction, for the teacher must decide on the most appropriate way to facilitate learning which meant an emphasis on student learning. Teaching should be based on the needs of the students and only the teacher could ascertain those needs. Nelson (1989) had maintained this earlier, stating that the teacher (a) must have an understanding of the stages children go through as they learn to spell and that they (b) must be able to devise activities that give children pattern-based and word-based encounters with their spelling words and (c) must effectively place children within the spelling curriculum and monitor that placement over time. This orderly prescription for successful teaching of spelling clearly necessitates that the teacher is knowledgeable about the research and literature on spelling and teaching techniques.

Schickedanz (1990) stated that the assumption that children construct knowledge themselves does not preclude the importance of adult interaction. Children need to be able to ask adults for the spellings of words, which helps them to support or change their generalizations. Teachers should make segmentation explicit and should involve children in letter selection and the segmenting process. Furthermore, she proposes high levels of adult responsiveness to children's questions about words might be vital to children's spelling development.

It is also apparent from the literature that the degree to which a teacher modelled spelling strategies seems to be very important. Tarasoff (1990) stated that teachers must model for their students an attitude of inquiry and strategies for analyzing and recalling spelling. Recht, et al (1991) stated that teachers should model spelling strategies, especially how to emphasize visual memorization of words, a 'write-visualize-write-compare' model. Freppon and Dahl (1991) also believed that teachers should model writing and grapheme and

phoneme awareness, both at a formal and informal level.

One of Vygotsky's (1978) more widely circulated ideas to explain instruction and learning was that of the 'zone of proximal development' (ZPD). He stated that the ZPD was the distance between the actual developmental level as determined by independent problem-solving and the level of potential development determined through problem-solving under adult guidance or in collaboration with more capable peers. This parallels the notion of the instructional level versus the independent level within developmental reading psychology. Gentry and Gillet (1993) stated that children needed to work at their instructional level in spelling which is a level of comfortable challenge, not too easy and not too hard. It was up to the teacher to determine the instructional levels of the students and to provide challenging activities which would encourage development.

Motivation is a major factor in a child's learning. "A positive affective climate enhances intrinsic motivation, encourages risk-taking, provides the child with the energy needed to make efforts to learn, ensures development of a positive attitude and helps the student develop an image of being a good speller" (Tarasoff, p. 16, 1992). Maintaining high interest is an important task facing the teacher of spelling. When children receive positive feedback, they develop a positive attitude toward spelling. Therefore, teachers must remember to point out the positive efforts and advances that the child has made in the spelling of words and must systematically and judiciously choose which mistakes to point out to the child.

Modelling good spelling strategies, setting challenging activities, helping children spell their words, ascertaining the individual needs of the children, expecting good spelling from the children and providing a positive affective environment are the teachers' tasks, according to the literature, if they wish to help improve their students' spelling ability.

Teaching With Spelling Lists

In the past, spelling practice typically consisted of spelling lists which were chosen from a textbook or from lists which were generated without any relation to what was being taught. Sometimes these lists were derived from themes, such as Halloween or Christmas words. At one time the English language was considered to have no coherent, underlying patterns and thus it was thought that the best way to teach spelling was through rote memorization. The 'list for the week' was taught as an isolated subject via the study-test method.

Should we teach spelling words using lists or incidentally from children's reading experiences? Early in this century, it was felt that the presentation of words in context was less efficient than in list form, except in so far as context was necessary to identify words in giving a test. In 1916, Winch stated that the most efficient method of studying words was in list form rather than in paragraph form. Hawley and Gallup (1922), E. Horn (1944, 1954, 1963), T. Horn (1952), McKee (1924), and Strickland (1951) found that the presentation of words in list form was the most efficient way to study spelling words. E. Horn (1963) found that words studied in lists were "more quickly learned, remembered longer and transferred more readily than words presented in paragraph form" (p. 16). Hall (1961) advocated teaching spelling by using graded words selected from less to more difficult, from more regular to less regular correspondences between letters and sounds. Supporting this view, Chall (1967) stated that controlling words for spelling regularity contributed to the learners' self-discovery of the relationships between sounds and letters. In 1969, T. Horn stated that there "is as yet no field-tested substitute for direct instruction on the basic core of high-frequency words needed in child and adult writing" (p.1285). Personke and Yee (1971) also said that spelling instruction should be based on grouping words with auditory and visual similarities and emphasizing the utilitarian worth of the words learned. However, Hillerich (1977) cautioned that no (phoneme-grapheme) generalizations should be taught through the lists of spelling words children ordinarily are expected to master. Beers, Beers and Grant (1977) also thought it was more important to give children an

opportunity to explore words in their reading and writing than to have them write lists of spelling words. The children would develop their own spelling strategies as they began to write. Zutell (1978) also confirmed that words were not learned in isolation but were learned together with a growing understanding of structural relationships between and among words.

Contradicting this and providing perhaps a significant weight of opinion, Ediger (1975), Hillerich (1977), E. Horn (1919, 1926, 1960) and T. Horn (1969) all advocated that words be presented in lists with an emphasis on high-frequency and relevancy. At the beginning level, word lists should consist of words most frequently used and gradually should start to incorporate words most frequently used by adults. Braun and Froese (1977) felt that formal spelling instruction should be given to those students who have not mastered core words and those children who have mastered the core words should be studying supple- mentary words. Bohen (1980), Rodgers, Covell and Slade (1978), and Templeton (1981) also advocated presenting words in list form but they advocated formulating word lists that demonstrated predictable patterns that underlie those words. They also advocated grouping those words along frequency considerations. These researchers believed that spelling programs should improve visual and associative memory and therefore should help the student to realize that to learn a word does not mean one learns a single, discrete item but rather, one expands an existing meaning category of words already known.

Some researchers felt that children should be in control of their learning and writing and lists presented by the teacher might take this control away from the student. Bean and Bouffler (1987) believed that spelling ability occurred only in use and therefore belonged only in use, in writing. Buchanan (1989) acknowledged that although repetition and memory were important, one should question the drilling of words out of context instead of the normal repetition through use of words in daily writing. McCracken and McCracken (1991) and Preen (1991) also felt that the study of lists of words out of context was an unproduc- tive exercise. Simon and Simon (1973) also felt that lists should be restricted to words in

the children's reading vocabularies because spelling would only be learned if sufficient visual recognition information was available.

Many researchers, however, have felt that children needed to be taught to consciously examine words and to make connections to other words. Choosing to concentrate only on words from a list provided a focus for both the teacher and the student. It also acted as a base line for the teacher's expectations regarding evaluation. Allred (1984), Henderson and Templeton (1991) and Tarasoff (1992) all stated that studying words in a list provided the teacher with the opportunity to model strategies and to highlight patterns. It also provided the student with the opportunity to explore spelling/meaning relationships, to make discriminations and perhaps, most importantly, to practise routines for examining words. Some children do not individually develop these strategies and some children are not aware that they should apply these strategies. Both groups would benefit from instruction on examining words.

Braun and Froese (1977) and Tarasoff (1992) stated that if the teacher presented lists of words with shared spelling patterns, sticking to the most common examples of a pattern, children would be more likely to remember the pattern and the words in the list. In developing the Individualized Canadian Spelling (I Can Spell) program, Rodgers, Covell and Slade (1978) also advocated the teaching of spelling words in list form grouped according to structure and frequency. Gentry and Gillet (1993) acknowledged that some teachers preferred to develop their own lists of spelling words which was valid, as long as they were grouped according to sound letter, visual or semantic patterns. They advocated including words from the content areas only when they fitted the patterns of the words in the list so that children had a chance to discover the logical pattern. Voorhees (1985) also advocated presenting words in a list format provided that they were related phonetically, semantically or 'etymologically'. Templeton (1992) agreed that simply pulling new spelling words from literature and/or content areas, based on a theme, was not enough unless the words were also related by sound or meaning pattern as well. These patterns were said to

aid in the memory process.

Mazzio (1987) admonished teachers that spelling lists should not contain too many words. Most commercial spelling programs were said to contain too many words or contained words that students did not use in daily speaking and writing activities.

Although there has been some controversy surrounding the presentation of spelling words to children, the majority of researchers felt that spelling words presented in list form was an efficient and effective way for children to learn new words. These spelling words should, however, have some common pattern which makes it easier for the children to study the words and create a spelling generalization from this study.

'Pre-test'-'Study'-'Post-test'

It seems inefficient for children to study words which they already know. And yet, in many published spelling programs, that is exactly what is expected of students. A list of words is presented, the student studies them and then the student is tested on these words. As early as 1923, Kingsley stated that students should be tested on the words first, to ascertain which words they did not know how to spell. Then they could study those words which they did not know. Allred (1984), Blanchard (1944), Edwards (1951), Fitzgerald (1953), Gates (1931), T. Horn (1946), Montgomery (1957), Rodgers, Covell and Slade (1978) and Shubik (1951) all supported the teacher-guided student self-correction of the pre-test as the single most important factor in learning to spell. Using this method, teachers identified the words the children did not know. Hibler (1957) maintained that the 'pre-test-study-test' method with an immediate correction of the list by the student, was super- ior to the study-test method. Braun and Froese (1977), Gentry (1987), Hillerich (1977), Petty (1969) and Witty (1969) have all stated that the 'pre-test'-'study'-'post-test' method built positive attitudes in children toward spelling instruction and have resulted in higher spelling achievement. Personke and Yee (1971) stated that pre-testing might be more benefi-

cial to spelling proficiency than phonetic instruction. Nelson (1989), Seda (1991) and Recht, et al (1991) also supported the 'pre-test'-'study'-'post-test' method because the study of the missed words became purposeful after ascertaining which words needed to be studied. Seda also stated that administering a pre-test prior to instruction to determine which words students needed to study and immediate self-correction were considered to account for 90 to 95 percent of all the learning that was needed in effective spelling (p. 214).

Self-Correction

Many researchers over time have felt that one of the single most important factors in learning to spell is the immediate correction of spelling mistakes after an initial mistake has been made by the student (Allred, 1984; Beseler, 1953; Christine and Hollingsworth, 1966; Fowler, 1989; E. Horn, 1963; T. Horn 1946; Louis, 1950; Recht, et al, 1991; Schoephoerster, 1962; Seda, 1991; Thomas, 1962; Tyson, 1953; and Voorhees, 1985). Personke and Yee (1971) stated that immediate and positive feedback was necessary if we were to attain the goal of mature spelling. They maintained that the single best method for learning to spell individual words was the 'corrected test' method whereby the students corrected their own test using their own spelling list and then wrote the correct response for any word misspelled. Loomer (1987) and Gentry (1989) stated that the self-correction of the pre-test should be done under the teacher's guidance. Seda and Hillerich (1977) found that the pre-test with immediate correction by the child accounted for about 95% of all learning within spelling. Seda recommended that students should not be directed to exchange papers after taking a spelling test because by doing this they could not focus on their own errors by correcting someone else's work. The students should correct their own pre-test by using a list of the words, or by listening to the teacher as the teacher spelled the words out.

<u>Proofreading</u>

Determining and correcting standard spellings and nonstandard spellings in one's writing is one of the main goals of the mature speller. Therefore, this should be one of the goals of the spelling program. Richmond (1960) stated that since research indicated that most spelling errors were highly individual, solutions to the problem of transfer generally involved some aspect of proofreading written work. Personke and Yee (1971) found that there was an apparent increase in correctness in words written by students who received instruction in proofreading. Simon and Simon (1973) found that the best learning method of spelling was the "generate and test" procedure, which was a form of proofreading and was also a visualization strategy. Bean and Bouffler (1987) stated that in order to become standard spellers, children needed help and this required them to become both effective readers and proofreaders. Anderson (1990) and Angeletti and Peterson (1993) all maintained that children should be given opportunities to examine their writing, to learn to revise and edit their papers, something which again focused their attention on the visual attributes of the words and also on the meaning and grammar of the words. Being spelling editors for each other was a highly motivating activity for children (Preen, 1991), which would help students to improve their proofreading skills and thus, their spelling skills.

Hodges (1981) and Tarasoff (1992) felt strongly that proofreading was the key step in the spelling process as this actively involved students, encouraging them to locate their own errors and decide on a strategy for correcting them. According to Tarasoff , just looking at the word was enough to produce a feeling in good spellers that confirmed the correctness of the spelling. "This proofreading (monitoring) step is an essential part of an effective spelling process" (Tarasoff, 1992, p. 29). However, according to Anderson (1985), simply proofreading and correcting their errors was not sufficient. Students must also, with the help of the teacher, attempt to determine the pattern and cause of their errors to avoid future errors on similar words.

Taylor and Kidder (1988) studied the development of spelling skills from first grade through eighth grade by identifying types of misspellings. They suggested that perhaps students would be better spellers if they were asked to write more frequently, if spelling lessons were focussed on frequently-used words and if time was spent on special problems with words on proofreading skills (p. 238).

Thus, we can see that the research literature strongly supports a proofreading component to the spelling program. Besides actively involving the students and being highly motivational, proofreading skills focused the students' attentions on the visual aspects of words rather than the phonetic aspects.

Handwriting

Does handwriting affect a child's spelling? If a child writes painfully slowly or misforms letters, do these visual and kinesthetic weaknesses affect a child's spelling? Hodges (1981) stated that handwriting had a special importance in spelling because misformed and illegible letters caused words to appear to be misspelled, to be misunderstood, or not to be understood at all. De Haven (1983) and Henderson and Beers (1981) stated that letters illegibly formed could not be considered to be spelled correctly. Hodges (1981) and McCracken and McCracken (1991)) also said that slow and laborious writing might detract from concentration on the spelling of a word. De Haven and Hodges both agreed that handwriting provides a sensory cue to the spelling of words and poorly formed words made the visual cues less exact, reducing this channel for learning. If spelling has a large visual memory component to it, the visual input needs to be accurate and consistent.

Did it matter if the children wrote sloppily on draft writings? Yes. Routmen (1993) stated that even on draft writings, sloppy handwriting should be avoided as there was less attention paid to the spelling of words. Was it important to handwrite or could students use a computer? Cunningham and Stanovich (1990) reported that handwriting was superior to

the use of the computer in improving spelling acquisition. Was it important to practise handwriting? Yes, it was. Phelps (1987) advocated that practice for five minutes a day would enable virtually any student to develop acceptable handwriting.

When do we start teaching cursive writing to children? Kaufman and Biren (1979) advocated teaching cursive writing to learning disabled students at an early age as an aid to spelling. After working with forty-eight first graders, Early et al (1976) also advocated teaching cursive writing to learning disabled students at a young age. Simner (1988) stated that excessive numbers of form errors in a kindergarten child's printing could be an important warning sign of later school failure.

One must keep in mind that handwriting and spelling are forms of communication. Both, however, are judged by the general public and used as gauges to ascertain intelligence and effectiveness of communication. Allen (1979) reported that a survey of employers and teacher-coordinators of cooperative educational programs found that among young employees, the most common deficiency in communication skills was poor handwriting and concurrent poor spelling.

From the research and literature, we can see that handwriting provides important sensory cues for the learning of spelling which are weakened if a child's handwriting is poor. It was found that teachers should provide handwriting practice at an early age and should also provide it daily. In addition, researchers stated that teachers should expect 'good' handwriting, even if the children were working on draft writings.

Length of Spelling Instruction

Researchers also looked at the length of spelling instruction within a school curriculum. If teachers provided more spelling instruction per day, would this improve students' spelling skills? In 1945, Larson found that reducing spelling instruction from 100 minutes a week

to 60 minutes a week had little adverse effect on achievement. T. Horn (1946) wrote that any time over 60 minutes a week might be spent more advantageously in other areas. E. Horn (1967) said that spelling instruction should be restricted to 60 - 75 minutes a week, as "what is needed is not more time but spirited, efficient use of instructional procedures" (p. 1346). "Research findings related to time are sometimes ignored by classroom teachers because they do more than teach students to study words in lists. Some students are involved in meaningless activities relating to the language itself" (Allred, 1987, p. 22). Mazzio (1987) stated that authorities had agreed that too lengthy a formal spelling period lowered rather than raised spelling achievement and maintained that sixty to seventy-five minutes of formal spelling instruction was recommended if it was spread out over the five-day school week. Thus, it seemed that researchers agreed that 15 minutes a day was a justifiable amount of time to spend on spelling instruction, provided the activities were effective and consisted of practices other than rote memorization.

Pronunciation and Articulation

Teachers have long wondered whether or not pronunciation and articulation influenced children's spelling in any way. Words such as 'rilly' for 'really', 'are' for 'our' and 'liddle' for 'little' make teachers wonder if pronunciation and articulation do not, in fact, influence certain spellings. Wilde (1992) found that good spellers had moved beyond phonetic spelling. As children grew older they were more likely to spell by analogy rather than phonetically. Poor spellers, on the other hand were locked into a limited number of strategies which relied on phonological or surface level information (Anderson, 1991). They tended to sound out spellings phoneme by phoneme. Seda (1991) found that poor spellers seemed to rely more on rules of letter-sound relationships. Tarasoff (1992) also found that poor spellers demonstrated an overreliance on sound/symbol relationships and sometimes even displayed a lack of knowledge of sound/symbol relationships. This had some implications for pronunciation, especially if the student was mispronouncing a word and consequently associating the incorrect grapheme with the incorrect sound.

Tiffany (1952) stated that words containing certain vowel sounds might be harder to spell since it was difficult to determine what sound occurred. Furness (1956) found that faulty pronunciation contributed to spelling difficulty. Also in 1956, Brown and Hildum found that when students were given a test involving substitution of one phoneme for another, voicing, point of articulation and manner of articulation influenced spelling. Braun and Froese (1977) stated that confused pronunciation was often significant because children's oral language development influenced their success in writing. De Haven (1983) stated that incorrect pronunciation or careless articulation reduced the number of oral cues children had to aid them in translating spoken language into written symbols. "Whenever oral cues to phoneme-grapheme correspondence are reduced, children must put greater reliance on the recall of visual forms" (De Haven, 1983, p. 273).

Lewis and Freebairn (1992) looked at the performance on spelling of twenty preschoolers, twenty-three elementary students, seventeen adolescents and seventeen adults. They found that subjects with a history of preschool phonology disorder performed more poorly on spelling tests. Sterling (1983) examined spelling errors in the spontaneous writing of fifty-six twelve-year-olds. He found that one set of errors related more to incorrect articulation than to poor spelling. In a study of fourth graders from the northeast coast of Newfoundland, Walker (1979) found that certain phonological features of a dialect spoken among these children influenced spelling errors and in another article, Walker (1979) stated that the Newfoundland dialect interfered with reading and spelling instruction. Groff (1978), however, found that only a few of forty-three features of the Black English dialect influenced the way in which two hundred twenty-three black fourth, fifth and sixth graders spelled words. In another article, Groff (1979) stated that although there was a relationship between Black English and certain spelling errors, there was no cause/effect relationship between speech errors and spelling errors. However, Cronnell (1979) used three studies to conclude that Black English could interfere with spelling.

Rudorf and Graham (1970) studied eight sixth-grade classes in four major geographic

dialect areas. They found that there did appear to be evidence that the dialect of children affected their perception of phoneme-grapheme correspondences and might produce errors of one kind in one geographic area and errors of another kind in another geographic area. "Significant differences in the proportions of phoneme-error to word-error between the various dialect areas are most easily explained as due to the influence of dialect upon spelling" (p. 46).

When looking at pronunciation and articulation as it affects spelling, researchers maintained that pronunciation and articulation influenced at least some of the types of spelling errors children make. These speech aspects have implications for classroom practice. Parke (1979) recommended using exaggerated pronunciation as a strategy for attempting the spelling of a word. Bebout (1980) stated that dictation was a form of practice for teaching spelling and pronunciation. At the least, teachers should be aware of the pronunciation and articulation of their students and should try to help them develop strategies to compensate for any mispronunciations or inaccuracies in articulation.

Word Games

Spelling games can play an important motivational role in the spelling curriculum. Personke and Yee (1971) and Cushenbery (1986) stated that although spelling games could stimulate student interest, they should be written games as spelling is a written activity. Hillerich (1982), Hodges (1981) and Merrifield (1991) stated that word games provided enjoyment and the potential to promote inquiry and experimentation. Preen (1991) suggested using such motivational activities as word games, word hunts with magazines, newspapers and books and word sorts to stimulate students' interest. Hodges (1981, 1991) recommended providing opportunities to practice word formation in a challenging and exciting setting to "encourage the formulation of generalizations about the written code and the classification of information within those concepts" (p. 15). Fitzgerald (1951), E. Horn (1960), T. Horn (1969) and Mazzio (1987) advocated using word games but these

games should supplement rather than supplant systematic instruction. Scott (1990) also wrote that students loved word searches, scrabbles and word game books and therefore these tools should be used to supplement the spelling program as they are highly motivational. Thus, researchers agreed that the highly motivational word games should be a part of an effective spelling program.

Writing Words Several Times

Many people remember among their school days having to rewrite misspelled words several times. Researchers looked at the effectiveness of such an activity. As early as 1909, Abbott had stated that writing words several times each didn't help. Allred (1984), E. Horn (1967), Petty and Green (1968), and Voorhees (1985) corroborated this assertion. Petty and Green and Allred also stated that the practice of writing in the air served no useful purpose and children should not be required to make repeated writings of words without intervening attempts at recall. Petty (1969) also stated that copying words 5 times or 10 times encouraged both poor habits and attitudes. Mazzio (1987) wrote that writing words several times without the benefit of immediate feedback and self-correction after each writing of the word encouraged incorrect spelling. The literature confirmed that writing out misspelled words correctly several times was not an effective practice and could even be counterproductive.

The Meanings of Spelling Words

Should children know the meanings of the words which they are being asked to spell? E. Horn (1960) and Petty (1968) both stated that it was not necessary for students to learn the meanings of the words they were learning to spell. One must wonder why children would want to learn to spell words for which they didn't know the meaning. Mangieri and Baldwin (1979) disagreed with E. Horn and Petty, stating that a significant relationship existed between understanding a word and the ability to spell it. Allred (1984) and T. Horn

(1946, 1969) both wrote that because most words taught in the first six grades are those most often used by children in writing and those most familiar to the children, teaching the meanings of each word was a wasteful practice. Personke and Yee (1971) stated that a person would have no need to spell a word for which he had no meaning. Therefore the spelling program should be to some extent a vocabulary program as well. Cushenbery (1986) wrote that the establishment of a broad reading, writing and speaking vocabulary correlated closely with general spelling ability and therefore "teachers should emphasize vocabulary development as a part of the daily program of spelling proficiency" (p. 90).

Templeton (1989) advocated a program of vocabulary learning in order to stimulate interest and inquisitiveness about language in general. Beck, Perfetti and McKeown (1982) also suggested that vocabulary instruction might lead to a greater general interest in words, which would lead toward increased learning of words in isolation and from context. Beck, et al (1987) advocated a program of study which examined affixes, bases and word roots and meaning 'families'. Templeton (1989) contended that the "difficulty in establishing causal links between vocabulary instruction and comprehension may in part be because of our failure to make the spelling/meaning link in the past" (p. 243).

Thus we see that the research advocates a spelling program which is , in part, a vocabulary development program as well. This is to ensure that children know the meanings of the words they are being asked to spell and to broaden their vocabulary, as well as to stimulate interest in words.

Dictionary Skills

Many times commercial spelling programs incorporate activities designed to practise spelling skills. Alphabetical order, diacritical marks, accent marks and syllabification are some of these activities. Researchers looked at these activities in order to decide whether they were effective activities to include in the spelling program. Hillerich (1982) and Personke

and Yee (1971) cautioned that instruction in the use of the dictionary, unless specifically directed toward the correction of spelling errors, did not seem to be effective in the area of proofreading written composition. Mazzio (1987) stated that one of the goals of spelling instruction should be to accustom students to checking the dictionary and other sources for word information. Anderson (1990), Beers and Beers (1991) and Preen (1991) all agreed that the statement 'look it up in the dictionary' had only a detrimental effect on the child's attempts to spell. Agreeing with these researchers, Angeletti and Peterson (1993) advocated building dictionary skills as an aid to finding the correct spellings of words. These researchers saw dictionary skills as a tool to be used when proofreading writing.

Braun and Froese (1977) and Cushenbery (1986) also cautioned that instruction in the use of the dictionary should only be used as a vocabulary component of the spelling program. Seda (1991) wrote that spelling textbooks which contained an abundance of dictionary practice activities, such as translating dictionary respellings, diacritical marking, alphabetizing and finding word meanings and multiple meanings, should be used sparingly as such activities were more appropriate for other areas of the Language Arts curriculum.

From the literature, we see that researchers advocated using the dictionary for proofreading written work and for increasing vocabulary only. Other activities, such as diacritical marks and alphabetizing, belong in other areas of the Language Arts curriculum as they have very little to do with proofreading written work or increasing vocabulary.

Commercial Spelling Programs

Are commercial spelling programs an effective tool to use in the teaching of spelling skills? "Commercial programs often fail to provide solid instructional strategies for teachers and teachers may rely exclusively on publisher-provided workbooks and reinforcers, as well

as on the standard testing and retesting of word lists" (Schlagal and Schlagal, 1992, p. 420). This reliance on canned, "teacher-proof", materials was cause enough for alarm but was made worse by the fact that under these conditions the teacher herself or himself seldom gave any actual spelling instruction (Hillerich, 1982). Cronnell and Humes (1980) concurred with this stating that spelling books generally offered a minimal amount of instructional practice and rarely required students to generate spelling words in response to their own needs.

However, according to Schlagal and Schlagal (1992), these problems were not sufficient reason to abandon the formal spelling curriculum. Bloodgood (1991) and Morris (1987) described how classroom teachers could meet the needs of poor spellers by placing them in instructionally appropriate materials, using two or three groups in developmentally appropriate books. However, the teacher would have to keep in mind the aforementioned comments and remember to actually provide spelling instruction in a direct way.

Many spelling textbooks contained a variety of activities having more "copying from list" activities than attention to real world spelling (Cohen, 1969; Cronnell & Humes, 1980; Graham, 1983; Graves, 1976). Graham (1983) cautioned that some activities in commercial spelling programs involving phonetic respelling and homonyms actually deterred learning. "Teachers should examine textbook content in order to know what instructions students are given. Spelling textbooks that (a) overemphasize phonics principles/ rule generalizations, (b) contain an abundance of dictionary practice activities and (c) include challenge words/exceptions to rules, should be used with reservation" (Seda, 1991, p. 215).

Given the developmental stages of spelling documented in recent research, the order in which words are introduced should parallel the sequence of stages children naturally move through as they become increasingly proficient spellers. Spelling program publishers should adhere to word selection criteria that reflect not only an understanding of spelling stages but also reflect carefully conducted counts of word frequency considering writing and reading

sources, as well as consideration of word structure (Nelson, 1989). Some commercial programs (e.g.. Rodgers, Covell and Slade, 1978) build their entire program around teacher involvement and have detailed suggestions as to the "what" and "how to" with "possibles" and "mights", much in the same way as a teacher's guide to a reading series might have. Thus, according to the research and literature, commercial spelling programs do have a place in the classroom. However, the teacher must use the program judiciously, being aware of the activities the children are being asked to do.

Conclusion

Having looked at the research and literature on the teaching of spelling from 1900 to 1994, we see that, according to the researchers, teachers should be aware of many factors which influence the progression towards standardized spelling. The developmental stages of spelling acquisition, the components of a good spelling program, and the many effective teaching strategies are all aspects of which the teacher should be aware.

The next chapter summarized the research findings and then belief statements and procedural statements, some supported by the research and some not supported by the research, were developed from these research findings. These belief statements and procedural statements were used as the questions in the survey that was administered to a sample of teachers from Kindergarten to Grade 7.

Chapter 3 -- Design of the Study

Introduction

This chapter begins with a brief description of the school district in which the research was conducted and the sample of respondents and how they were selected. The instrument employed for the research is described, how it was constructed and how it was administered. Finally, the procedures and data analyses are described.

Research Site

This study was conducted in a small suburban school district south of Vancouver, British Columbia. Delta School District serves 19,342 students and employs 958 teachers. The district has 25 elementary schools and 7 high schools. This district consists of three distinct geographic and economic areas: a north end, a central area and a south end. The north end has a high population of ESL students, plus five dual-track schools, teaching both English and French Immersion. This area has a broad span of socioeconomic conditions and is bordered on two sides by industrial land and one side by agricultural land. The central area has a fairly stable lower- to middle-class population. It is bordered by agricultural land on three sides and the Fraser River on the other. The ESL population is fairly low. There are five elementary schools and one high school in this area, one of which is a dual-track school with classes being taught fulltime in either French or English. The south end is a fairly stable area serving a middle to upper socioeconomic population. There are six elementary schools and one high school in this area. Two of the schools are dual-track schools. In addition, Delta offers five school venues which have resource rooms for severely physically challenged or socially challenged children. The district, besides having its own economic bases, is very much a "bedroom" suburban area to the main population base of the City of Vancouver, which is about 20 kilometers away.

<u>Subjects</u>

The survey was restricted to those teachers teaching Kindergarten to Grade Seven, both English and French. It also included Learning Assistants. Of those teachers sharing a class assignment, only one of the teachers completed the survey. Of the twenty-seven elementary schools, two schools opted not to participate in the survey, leaving 298 possible respondents. Of the 298 possible respondents, 199 teachers completed a survey. This represents a 67% return from the possible respondents. The following tables illustrate the breakdown of respondents according to age, years of teaching experience and recent inservice.

Table 2

<u>Age of Respondents and The Corresponding Grade Levels They Taught</u>

Age of Respondents	Grade level of respondents									
	K	1	2	3	4	5	6	7	Other	Totals
20-29	0	0	3	1	1	0	1	1	0	7
30-39	0	4	4	5	8	3	6	4	6	40
40-49	5	13	14	9	11	10	12	8	14	96
50-59	3	4	5	10	6	4	6	4	7	49
60+	0	0	0	0	2	2	0	0	0	4
Undeclared	0	3	0	0	0	0	0	0	0	3
Totals	8	24	26	25	28	19	25	17	27	196

Table 2 shows the ages of the respondents and the grade levels at which they taught. The majority of the teachers (96 = 48%) in this district were between forty and forty-nine years of age. An almost equal number of teachers were either between thirty and thirty-

nine years of age (40 = 20%) or between fifty and fifty-nine years of age (49 = 25%). Also, it should be noted that three Grade One teachers did not answer this question.

Table 3

Respondents' Years of Teaching Experience and The Corresponding Grade Levels They Taught

Years of teaching experience	Grade level of respondents									
	K	1	2	3	4	5	6	7	Other	Totals
0-4	0	0	3	1	0	0	1	1	0	6
5-9	3	6	6	3	3	1	5	4	3	34
10-14	3	7	3	2	4	3	5	2	6	35
15-19	1	4	4	0	8	7	4	2	11	41
20-24	0	4	5	10	7	3	7	5	3	44
25-29	0	1	1	4	4	4	3	3	4	24
30+	1	2	4	5	2	1	0	0	0	15
Totals	8	24	26	25	28	19	25	17	27	199

Table 3 shows the years of teaching experience of the respondents and their current grade placement. This table shows that six teachers (3%) had 0 - 4 years of experience, thirty-four teachers (17%) had 5 - 9 years of experience, thirty-five teachers (18%) had 10 - 14 years of experience, forty-one teachers (21%) had 15 - 19 years of experience, forty-four teachers (22%) had 20 - 24 years of experience, twenty-four teachers (12%) had 25 - 29 years of experience and fifteen teachers (8%) had 30+ years of experience.

Table 4

Recent Inservice by Respondents and the Corresponding Grade Levels They Taught

	Grade level of respondents									
Recent Inservice	K	1	2	3	4	5	6	7	Other	Totals
within the last year	0	5	8	5	5	1	0	0	12	36
one to two years ago	1	3	5	1	1	0	1	1	2	15
two to three years ago	1	3	2	2	0	1	3	2	3	17
three to five years ago	1	1	3	4	1	1	2	2	1	16
five to ten years ago	0	4	1	1	1	4	5	3	5	24
more than ten years ago	5	8	4	7	16	11	10	4	3	68
never	0	0	3	5	4	1	4	5	1	23
Totals	8	24	26	25	28	19	25	17	27	199

Table 4 shows the breakdown of respondents according to their grade levels and their most recent inservice concerning spelling. The majority of the respondents' (sixty-eight = 34%) most recent inservice on spelling was more than ten years previous to the study. Another thirty-six respondents (16%) had had inservice on spelling within the last year. Incredibly, twenty-three of the respondents (12%) had never had a workshop or inservice on spelling.

Instrument

A survey which incorporated a six-point Likert Scale for the belief statements and a five-point Likert Scale for the procedural statements was developed from the research reviewed.

(See Appendix A for a copy of the survey.)

Part I of the survey sought out general demographic details of the respondents' age, grade level, number of teaching years and preservice/inservice pertaining to spelling. Part II of the survey contained the sample's responses to belief statements about spelling and Part III of the survey called for the respondents to react to procedural statements. These were designed to see if there was a relationship between the postulates from which the teachers teach and their declared classroom practice.

Once the survey was completed, a sampling of teachers--the staff from one school--was asked to peruse the questions and to make any suggestions concerning the clarity, difficulty or ambiguity of the wording or of the ideas. These suggestions were taken into consideration and revisions were made to the survey.

Procedures

Background of Researcher.

This researcher has been a teacher for the Delta School District since 1974. During that time I have worked on numerous District Committees, such as the Science Committee, the Math Committee and the Field Trip Resource Book Committee, have been the president of the Intermediate Teachers Local Specialists Association, have been a member of the Delta Teachers Association Professional Development Committee, have been a Resource Person for the 'Cooperative Learning', 'Second Step' and 'Feeling Yes, Feeling No' initiatives in the district and have also presented various workshops. In these ways, this researcher is very well known within the district and has, perhaps, a reputation as someone who is interested in excellence in teaching.

<u>Data Collection.</u>

Following the procedures for performing research in the Delta School District, a proposal seeking permission to conduct research in the district was sent to the director in charge of research, Dr. Graham Mallett. Once permission to conduct the research was granted, a personal phone call was made to all the principals of all the elementary schools in the district. Because of this researcher's reputation in the district, the consent of the principals was readily given. None of the principals thought it necessary to review the material before consenting to present the survey to their staffs, although this procedure was offered. The survey was sent to the schools involved during the week of January 15th to 20th, 1995. The principals were asked to present the survey at a staff meeting and to gather the completed surveys two weeks after presentation. This was thought to give the teachers a reasonable period to complete the surveys. Also, personal friends at each school was asked to remind their colleagues to complete the surveys, which they did.

Once the surveys were returned, the results were put onto the database, FilePro and the Spreadsheet, ClarisWorks. Although some of the surveys were returned within three days, this researcher waited until all of the schools returned their surveys before putting the results onto the computer. The results were graphed and tables were created combining the belief statements and their corresponding procedural statements. The data were expressed as percentages.

<u>Data Analyses.</u>

The purpose of this study was to determine the postulates a representative sample of elementary teachers used to teach spelling and to determine to what degree those procedures were perceived by the respondents as being used in those classrooms.

For each one of the belief statements, a graph with percentages was created. These graphs gave pictorial evidence to help determine which postulates the elementary teachers used to teach spelling. The same process was used for the procedural statements (for

graphs see Appendix C). When determining the percentages for the belief statements, the responses 'strongly agree' and 'agree' were grouped together to account for any reluctance in the respondents to answer in the absolute. This was also done for the responses 'strongly disagree' and 'disagree'. When determining the percentages for the procedural statements, the responses 'almost always' and 'frequently' and the responses 'infrequently' and 'almost never' were often grouped. Using the percentages, tables were also compiled to show the responses to each question according to grade level. The optimum response categories, derived from the research and literature, were highlighted to further an understanding of the results.

Thus the data were analyzed to determine whether the respondents' answers to the belief statements agreed with their indicated procedural statements. Also, the respondents' answers were analyzed to determine whether they agreed with the research-supported belief and procedural statements.

Summary

Chapter Three has provided an overview of the methodology used in this research. It has described the research site, the subjects, the survey instrument, the procedure for collecting the data and how the data were analyzed. This study was specifically designed to examine the beliefs of a sampling of elementary school teachers as they pertain to the teaching of spelling and to examine the indicated classroom procedures of these elementary school teachers. These beliefs and procedures were compared to the research and literature on effective classroom practices. The following chapter will present the findings of the study.

Chapter 4 - Results of the Study

In Chapter 1, the controversies surrounding spelling were examined. In Chapter 2, the research pertaining to the teaching of spelling was examined and the findings summarized in order to develop belief and procedural statements about teaching spelling. These constituted the basis for constructing the research survey. In Chapter 3, the design of the study was described. After summarizing the research on spelling from 1900 to 1994, a survey was created from the above mentioned belief and procedural statements. This survey was given to 289 elementary school teachers in a small school district neighbouring Vancouver, B.C. Of the possible respondents, 199 teachers completed the survey. The results of this survey were then analyzed and graphed.

In this chapter, the results of the survey, administered to Delta School District elementary school teachers, will be discussed. After coding and analyzing the data, the results for each belief statement and its corresponding procedural statement were put on to a bar graph and also into a table. For the sake of brevity (and hopefully clarity), these individual bar graphs will be included in the appendices (see Appendix C) and only the combined tables are presented in the body of this thesis for analysis and comment.

Each belief statement and its corresponding procedural statement is presented followed by the data. These data are presented in a table which gives the percentage of respondents (n = 199) who chose each possible answer. For the sake of seeking a trend, the answers 'strongly agree/agree' for the belief statement were grouped together, as were the answers 'disagree/strongly disagree'. Each table has highlighted columns which indicate the responses which are supported by the findings of the research and literature on spelling.

As we look at each table, we are looking for agreement between the answers to the belief statements and the answers to the corresponding procedural statements. We are also

looking for anomalies between the answers to both statements. We will be looking at the overall group answers to both statements, as well as the results by grade level in order to discover whether there is agreement or disagreement among and between the grades.

Developmental Stages I

Belief Statement:

1a. Children progress through a sequential and predictable sequence of developmental stages as they learn to spell.

Procedural Statement:

1b. As an elementary teacher, I try to determine which stage of spelling development each child has reached.

Table 5

Responses to Belief Statement 1a and Procedural Statement 1b

	Belief Statement				Procedural Statement				
	% Strongly Agree/ Agree	% Neither Agree nor Disagree	% Disagree/ Strongly Disagree	% Undecided	%Almost Always	% Frequently	% Sometimes	% Infrequently	% Almost Never
Overall	63.6	16.9	10.7	8.7	31.3	33.8	17.4	10.8	6.7
K	75.0	0.0	12.5	0.0	12.5	50.0	12.5	0.0	12.5
1	50.0	25.0	8.0	8.0	41.6	29.1	8.0	8.3	4.1
2	57.7	19.2	7.7	11.5	23.1	42.3	15.4	11.5	3.8
3	56.0	16.0	24.0	4.0	20.0	52.0	24.0	0.0	4.0
5	68.4	15.8	5.3	10.5	31.6	15.8	21.1	26.3	5.3
4	60.7	17.9	17.9	3.6	32.1	25.0	21.4	14.3	7.1
6	60.0	16.0	12.0	12.0	24.0	40.0	20.0	8.0	8.0
7	58.8	23.5	0.0	17.6	23.5	29.4	23.5	11.8	11.8
Other	81.5	7.4	3.7	7.4	51.9	22.2	7.4	11.1	7.4

As children develop an awareness of the printed word, they progress from scribbles to associating sounds with consonants and then to adding in the vowel sounds. This pro-

gression of development of spelling knowledge is supported by the research as being sequential and predictable.

As we can see from Table 5, 63.6% of the respondents either strongly agreed or agreed that children progressed through a sequential and predictable sequence of developmental stages as they learned to spell. Almost an equal amount -- 65.1%-- said they attempted to determine which stage of spelling development each of their students had attained. However, another 34.9% of the respondents were, at best, only sometimes aware of the stage of spelling development of each student or, at worst, almost never aware of the stage of spelling development of each student. Looking at Table 5, those respondents who taught Kindergarten and those respondents who fell into the 'Other' category agreed most strongly with the belief statement. Regarding the procedural statement, the Kindergarten to Grade 3 teachers were more likely to try to determine the stage of spelling development of their students than were those teaching Grades 4 to Grade 7. The Learning Assistant Teachers were the most likely to try to determine the stage of spelling development of their students which perhaps only stands to reason, given the nature of their jobs.

Developmental Stages II

Belief Statement:

> 1c. Children progressively move through each stage of development in spelling before attaining the next stage of development.

Procedural Statement:

> 1d. As an elementary school teacher, I use activities which reflect a higher stage of development than the one the child is in.

Although children move through a sequential and predictable sequence of developmental stages as they learn to spell, they tend to bounce back and forth between two stages until they make the transition to the next stage. Therefore, the above belief statement (1c) is not supported by the research.

The above procedural statement (1d) is also not supported by the research. If a teacher has determined the stage of spelling development at which a student is functioning, then it would stand to reason that the teacher would teach the appropriate strategies to match that stage to ensure that the child does not have 'blanks' in his understanding. A child who is still learning his letter sounds would not benefit from formal instruction in adding suffixes to a word.

Table 5.1

Responses to Belief Statement 1c and Procedural Statement 1d

	Belief Statement				Procedural Statement				
	% Strongly Agree/ Agree	% Neither Agree nor Disagree	% Disagree/ Strongly Disagree	% Undecided	%Almost Always	% Frequently	% Sometimes	% Infrequently	% Almost Never
Overall	27.1	33.3	37.0	2.6	6.7	23.6	52.8	8.7	8.2
K	37.5	37.5	12.5	0.0	0.0	50.0	25.0	0.0	12.5
1	25.0	29.1	37.5	0.0	8.3	16.6	50.0	4.1	12.5
2	15.4	34.6	46.2	0.0	7.7	7.7	57.7	15.4	7.7
3	12.0	44.0	44.0	0.0	4.0	28.0	52.0	12.0	4.0
4	28.6	42.9	28.6	0.0	3.6	28.6	60.7	3.6	3.6
5	47.4	31.6	21.1	0.0	5.3	15.8	68.4	5.3	5.3
6	32.0	20.0	36.0	12.0	12.0	24.0	48.0	16.0	0.0
7	35.3	23.5	29.4	11.8	17.6	29.4	29.4	17.6	5.9
Other	18.5	25.9	55.6	0.0	0.0	25.9	51.9	0.0	22.2

Looking at Table 5.1, we find that one third (33.3%) of the respondents fell into the neither agree nor disagree category, indicating a certain degree of uncertainty. In addition, 27.1% of the respondents believed that children's progress as they learned to spell was sequential and linear. Almost 71% of the respondents indicated to some degree a lack of understanding of the concept of spelling stages, as they strongly agreed, agreed or neither agreed nor disagreed with the belief statement. Happily, another 37.0% of the respondents believed that children did not move smoothly through each stage of development before attaining the next stage. Table 5 told us that the respondents were aware that

children do progress through sequential, predictable stages of development in spelling but Table 5.1 tells us that the majority of the respondents seemed not to clearly understand the nature of the developmental stages of spelling.

The individual grade responses are also intriguing, as they show a definite lack of agreement between the grades. Over half (55.6%) of those respondents who teach Learning Assistance indicated an understanding of the nature of the stages of spelling development. The Kindergarten teachers indicated the least understanding, which in one way is surprising as Kindergarten teachers spend much of their time determining each child's stage of development. However, perhaps it is not so surprising when one considers the fact that formal spelling programs, or even a formal concern for spelling, is not an immediate concern to a Kindergarten teacher.

Looking at the responses to the procedural statement in Table 5.1, the wildly disparate results definitely indicated a lack of understanding of the stages of development. Although many (63.6%) of the respondents said they determined their students' stages of development, 83.1% of the respondents almost always, frequently, or sometimes incorporated activities which reflected a higher stage of development than the one the child was in. By omission, some of these children were not exposed to some of the concepts and/or skills inherent in their attained stage of development. Only 16.9% of the respondents infrequently or almost never used activities which reflected a higher stage of development than the stage the child was in.

Conclusions.

The respondents did seem to be aware that children progressed through a sequential and predictable sequence of developmental stages but did not seem to fully understand the nature of these developmental stages. Many reported that they attempted to determine the stage of spelling development of each student but this needs to be examined further given that there is evidence of confusion about these stages. Also, according to the

results of the questions pertaining to the nature of the stages of spelling development, there seemed to be confusion about appropriate practices. Given the results, some students hypothetically might be missing skills and strategies as a result of inappropriate practices.

Spelling Strategies I

Belief Statement:

2a. Visual strategies are used more than phonics strategies by competent spellers.

Procedural Statement:

2b. As an elementary teacher, I encourage poor spellers to use a visualization strategy.

Table 6

Responses to Belief Statement 2a and Procedural Statement 2b

	Belief Statement				Procedural Statement				
	% Strongly Agree/ Agree	% Neither Agree nor Disagree	% Disagree/ Strongly Disagree	% Undecided	%Almost Always	% Frequently	% Sometimes	% Infrequently	% Almost Never
Overall	50.0	29.2	10.4	10.4	13.3	45.6	24.6	6.7	9.7
K	62.5	25.0	0.0	0.0	0.0	50.0	12.5	0.0	25.0
1	37.5	25.0	16.6	12.5	25.0	45.8	12.5	4.1	4.1
2	38.5	26.9	15.4	15.4	15.4	46.2	26.9	3.8	3.8
3	64.0	24.0	4.0	8.0	16.0	44.0	28.0	8.0	4.0
4	46.4	25.0	14.3	14.3	10.7	42.9	32.1	14.3	0.0
5	26.3	42.1	15.8	15.8	15.8	36.8	31.6	15.8	0.0
6	44.0	36.0	4.0	16.0	4.0	36.0	28.0	4.0	28.0
7	58.8	17.6	5.9	17.6	0.0	41.2	17.6	0.0	41.2
Other	62.9	18.5	18.5	0.0	18.5	59.3	18.5	3.7	0.0

According to the research, competent spellers use visual strategies more than phonics strategies to determine the spelling of new words. Looking up into "the invisible screen behind one's eyes" or writing in the air, competent spellers determine how to spell a word.

However, trying to sound out a word or its parts is not used often by competent spellers. As they move toward more standardized spelling, the competent speller relies less on phonics and more on visual strategies. Many poor spellers are not aware of this strategy and therefore teachers should be exposing them to this visualization strategy and should be encouraging it. Thus, this belief statement is supported by the research.

In Table 6, the responses to the belief statement show us that 50.0% of the respondents strongly agreed or agreed that visual strategies were used more than phonic strategies by competent spellers. However, when we look at the individual grade level responses, we see some interesting trends. Of those respondents who taught Grade 1 and Grade 2, less than 40% strongly agreed or agreed. Naturally, at these grade levels, most of the children are still working largely at the phonic level but could also be experimenting with less reliance on letter-sound relationships. However, at the higher grade levels where we would expect to see much more standardized spelling and therefore, much more reliance on visual strategies, the teachers, especially the Grade 5 teachers, did not agree that visual strategies were used more than phonic strategies by competent spellers. Perhaps the poorer spellers take up too much of the teachers' time and therefore they have had little time to pay attention to the strategies that competent spellers are using. However, if they were aware of the research, then the teachers should have agreed more strongly with this belief statement.

Looking at the responses in Table 6 to the procedural statement, we see that 13.3% of the respondents almost always encouraged poor spellers to employ a visualization strategy and 45.6% frequently encouraged poor spellers to use a visualization strategy. This means that the other 41.1% were at best only sometimes encouraged to use a visualization strategy. Also, even though 50.0% of the respondents agreed or strongly agreed that visual strategies were used more than phonic strategies by competent spellers, 16.4% of the respondents infrequently or almost never encouraged poor spellers to use a visualization strategy. When are these students exposed to this strategy?

Again, looking at Table 6, there is an interesting relationship between the grade level and the frequency with which the respondents encouraged a visualization strategy. The respondents who taught Kindergarten to Grade 4 were more likely to encourage a visualization strategy than were those respondents who taught Grades 5 to 7. The older the students become, the more likely it is that they will use more standardized spelling and therefore use a visualization strategy more frequently and yet, the teachers of the older students reported little encouragement of visualization strategies. Also, once again, those respondents who fell into the 'Other' category seemed to employ this research-supported procedure most often, which is not surprising and gives a measure of comfort about things in the Learning Assistant rooms.

Spelling Strategies II

Belief Statement:

2c. Poor spellers rely heavily on letter-sound relationships and rote memorization.

Procedural Statement:

2d. As an elementary teacher, I encourage children to use their own strategies for learning the spelling of a word.

Poor spellers have few strategies for remembering or attempting the spelling of new or even known words. According to the research, letter-sound relationships and rote memory are the two most common strategies employed by poor spellers. Therefore, the belief statement is supported by the literature.

Looking at Table 6.1 shows us that of the respondents, 43.9% strongly agreed or agreed with this research-supported statement. Surprisingly, of those teachers who teach Learning Assistance, only 37.0% agreed or strongly agreed with the research. It would be interesting to discover what strategies these respondents believed poor spellers employed, as they were also the group that *disagreed* most strongly that poor spellers relied heavily on letter-sound relationships and rote memorization.

Table 6.1

Responses to Belief Statement 2c and Procedural Statement 2d

	Belief Statement				Procedural Statement				
	% Strongly Agree/ Agree	% Neither Agree nor Disagree	% Disagree/ Strongly Disagree	% Undecided	%Almost Always	% Frequently	% Sometimes	% Infrequently	% Almost Never
Overall	43.9	23.5	28.5	4.1	25.1	49.2	23.1	1.5	1.0
K	37.5	37.5	25.0	0.0	25.0	50.0	12.5	0.0	0.0
1	50.0	12.5	29.1	4.1	37.5	33.3	12.5	0.0	8.3
2	42.3	19.2	34.6	3.8	19.2	46.2	34.6	0.0	0.0
3	48.0	28.0	24.0	0.0	24.0	48.0	28.0	0.0	0.0
4	46.4	35.7	17.9	0.0	32.1	53.6	14.3	0.0	0.0
5	36.8	31.6	26.3	5.3	10.5	57.9	21.1	10.5	0.0
6	44.0	16.0	32.0	8.0	20.0	60.0	20.0	0.0	0.0
7	47.1	17.6	17.6	17.6	29.4	52.9	11.8	5.9	0.0
Other	37.0	18.5	44.4	0.0	22.2	37.0	37.0	0.0	0.0

Overall, however, we see that the teachers at each grade level did not have a definitive understanding of the spelling strategies employed by poor spellers:

Looking at the procedural statement, we find that the research said that poor spellers had few strategies for remembering or attempting the spelling of words. To encourage children to use their own strategies would mean that some students would only use rote memorization or phonic strategies in attempting to spell new words. Also, some children would use erroneous strategies and some would not, or could not, discover any new strategies in their progress towards becoming competent spellers. Therefore, the above procedural statement is not supported by the research as the aim of a teacher would be to help develop competent spellers and competent spellers use visualization strategies more than other strategies. Poor spellers need to be exposed to these strategies, rather than being encouraged to use their own ineffective strategies.

Looking at the results of the corresponding procedural statement, we find the overwhelming majority of the respondents were encouraging their students to use their own strategies at least sometimes. This suggests that many students could be using ineffective strategies and were perhaps not being exposed to the use of visualization strategies to improve their spelling skills.

Conclusions.

The respondents did not seem to completely understand the difference between the strategies that competent spellers use and the strategies that poor spellers use when they are spelling words. Also, the respondents were seemingly influenced by a 'student-driven discovery' philosophy, as most respondents reported encouraging students to use their own strategies. If the respondents do not teach the students other strategies such as visualization, then this means that very few of the poor spellers will learn more effective spelling strategies other than rote memorization and letter-sound relationships.

Multi-sensory Input

Belief Statement:

3a. When a teacher employs visual, auditory and kinesthetic/tactile stimuli in the teaching of spelling, it will increase the likelihood that students will learn to spell accurately.

Procedural Statement:

3b. As an elementary teacher, I teach the children the spelling strategy -- see, say, spell, write, check, repeat.

Each child learns in many ways, be that via visual, auditory, or kinesthetic/tactile channels. The teacher who is aware of this process, ensures that each child has as many opportunities to learn to spell a word in as many ways as possible. Thus, this belief statement is supported by the research. Overall, 87.2% of the respondents(see Table 7) strongly agreed or agreed with this statement. This is not surprising, given the number of years the idea of

using a multi-sensory approach has been an accepted practice among elementary teach-
ers. Thus, when we look at the individual grade results, we see a high degree of agree-
ment that a multi-sensory approach will increase the likelihood that students will learn to
spell accurately.

Table 7

Responses to Belief Statement 3a and Procedural Statement 3b

	Belief Statement				Procedural Statement				
	% Strongly Agree/ Agree	% Neither Agree nor Disagree	% Disagree/ Strongly Disagree	% Undecided	%Almost Always	% Frequently	% Sometimes	% Infrequently	% Almost Never
Overall	87.2	11.8	0.0	1.0	16.9	32.3	22.6	10.8	17.4
K	87.5	0.0	0.0	0.0	0.0	25.0	12.5	0.0	50.0
1	83.3	8.3	0.0	0.0	12.5	37.5	12.5	4.1	25.0
2	84.6	7.7	0.0	3.8	11.5	30.8	23.1	11.5	19.2
3	76.0	20.0	0.0	4.0	40.0	24.0	16.0	16.0	4.0
4	89.3	10.7	0.0	0.0	14.3	42.9	14.3	17.9	10.7
5	94.7	5.3	0.0	0.0	10.5	52.6	15.8	15.8	5.3
6	84.0	16.0	0.0	0.0	4.0	28.0	40.0	12.0	16.0
7	82.4	17.6	0.0	0.0	5.9	11.8	47.1	11.8	23.5
Other	88.9	11.1	0.0	0.0	33.3	25.9	18.5	0.0	22.2

As the research shows, a multi-sensory approach used by both teachers and students is
more likely to elicit the proper spelling of a word than a unidimensional teaching strategy.
Thus, if the teacher uses visual, auditory and kinesthetic strategies, they will ensure that
children are given a chance to process the word in their preferred mode of learning. The
strategy of 'see, say, spell, write, check, repeat' is a multi-sensory approach which is sup-
ported by the research.

Although 87.0% of the respondents strongly agreed or agreed with a multi-sensory ap-
proach as a belief statement, there did seem to be some confusion as to how those re-
spondents might present a multi-sensory approach. Only 49.2% 'almost always' or 'fre-

quently' employed the multi-sensory approach of 'see, say, spell, write, check, repeat'. The remaining 50.8% of the respondents at best introduced this strategy only sometimes. This means that 17.4% of students were almost never exposed to this research-supported strategy.

Only 25.0% of the Kindergarten teachers reported that they taught this spelling strategy, which is not surprising, considering that children that age are just beginning to recognize and use letters. What was surprising were the results of the Grade 6 and 7 teachers, who once again were the least likely of the respondents to practice a research-supported procedure. Although, the Learning Assistants were not the most likely to teach this strategy, they did follow the trend of the other grades. This is a surprise considering the general belief that multi-sensory techniques work to the advantage of those under the charge of Learning Assistants.

Conclusions.

From the results, one can conclude that the respondents strongly agreed with this research-supported statement that a multi-sensory approach is a highly effective teaching strategy. However, one can also see that some of the respondents were unsure of how this approach manifests itself in the classroom.

The Reading / Writing Connection

Belief Statement:

> 4a. The establishment of a broad reading, writing and speaking vocabulary correlates closely with general spelling ability.

Procedural Statement:

> 4b. As an elementary teacher, I provide a broad range of reading, writing and speaking activities to increase a child's general spelling ability.

Spelling is a language process and as such should not be taught in isolation. The more

writing activities that a child is engaged in, the more opportunities the child has to make correct spelling automatic. Thus, the above belief statement is supported by the research. Overall, 72.1% of the respondents 'strongly agreed' or 'agreed' with this statement. However, another 19.1% 'disagreed' or 'strongly disagreed', which makes one wonder what those respondents considered to be of influence.

Table 8

Responses to Belief Statement 4a and Procedural Statement 4b

	Belief Statement				Procedural Statement				
	% Strongly Agree/ Agree	% Neither Agree nor Disagree	% Disagree/ Strongly Disagree	% Undecided	%Almost Always	% Frequently	% Sometimes	% Infrequently	% Almost Never
Overall	72.1	8.8	19.1	0.0	50.5	41.2	8.2	0.0	0.0
K	50.0	12.5	25.0	0.0	25.0	62.5	12.5	0.0	0.0
1	79.2	4.1	8.3	0.0	66.7	20.8	8.3	0.0	0.0
2	65.4	19.2	11.5	0.0	76.9	19.2	3.8	0.0	0.0
3	64.0	8.0	28.0	0.0	48.0	52.0	0.0	0.0	0.0
4	57.1	3.6	39.3	0.0	53.6	46.4	0.0	0.0	0.0
5	73.7	5.3	21.1	0.0	31.6	63.2	5.3	0.0	0.0
6	84.0	8.0	8.0	0.0	48.0	40.0	12.0	0.0	0.0
7	82.4	5.9	11.8	0.0	64.7	29.4	5.9	0.0	0.0
Other	74.1	11.1	14.8	0.0	37.0	48.1	14.8	0.0	0.0

Similarly, when we look at the procedural statement, children cannot be expected to spell words which they cannot read or to which they have not been exposed, or for which they have no use. Thus, the students should be exposed to as broad a range of reading, writing and speaking vocabulary as possible. Therefore, this procedural statement (4b) is supported by the research.

Whereas 72.1% of the respondents 'strongly agreed' or 'agreed' with the belief statement, only 50.5% of the respondents almost always tried to provide their students with a broad range of reading, writing and speaking activities and 41.7% 'frequently' tried to provide

this opportunity. This discrepancy of almost twenty percent could possibly be due to the wording of the procedural statement, as it is a 'motherhood' statement which many teachers would be reluctant to disagree with.

In general, there seemed to be an upward trend with the higher grades agreeing more strongly with this statement. However, if there were some reservations about agreeing with the belief statement, there did not seem to be any reluctance among the respondents to indicate that they almost always or frequently provided a broad range of reading, writing and speaking activities. Interestingly, the Learning Assistants indicated the least likelihood to provide a broad range of reading, writing and speaking activities which is perhaps an indication of the little time these teachers are allotted for remedial activities.

Conclusions.

Reflecting the current philosophy of 'whole language', the respondents strongly believed that a broad reading, writing and speaking vocabulary correlated with general spelling ability. Furthermore, this belief translated into a philosophy which seemed to be prevalent in most of the classrooms of the respondents.

Motivation

Belief Statement:

5a. Motivation is a major factor in a child's learning.

Procedural Statement:

5b. As an elementary school teacher, I give my students rewards such as stickers and stars to motivate them to do well in spelling.

According to the research, if children are interested in an activity, feel positive about their efforts and/ or see a purpose for the activity, they will be prepared to put forth more effort into learning the particular concept or skill. Therefore, the aforementioned belief statement is supported by the research.

Table 9

Responses to Belief Statement 5a and Procedural Statement 5b

	Belief Statement				Procedural Statement				
	% Strongly Agree/ Agree	% Neither Agree nor Disagree	% Disagree/ Strongly Disagree	% Undecided	%Almost Always	% Frequently	% Sometimes	% Infrequently	% Almost Never
Overall	91.3	4.1	4.6	0.0	10.8	23.7	23.2	16.5	25.8
K	75.0	12.5	0.0	0.0	0.0	25.0	0.0	0.0	62.5
1	75.0	8.3	8.3	0.0	12.5	12.5	16.6	16.6	33.3
2	80.7	11.5	3.8	0.0	11.5	26.9	34.6	11.5	11.5
3	96.0	4.0	0.0	0.0	4.0	40.0	36.0	8.0	12.0
4	100.0	0.0	0.0	0.0	21.4	21.4	28.6	21.4	7.1
5	100.0	0.0	0.0	0.0	10.5	26.3	26.3	15.8	21.1
6	88.0	0.0	12.0	0.0	8.0	8.0	16.0	24.0	44.0
7	82.4	0.0	17.6	0.0	17.6	11.8	11.8	17.6	41.2
Other	96.3	3.7	0.0	0.0	3.7	33.3	14.8	18.5	25.9

A positive attitude toward spelling is very important to the child's continued progress towards becoming a competent speller. This is not achieved through extrinsic sources of motivation but rather through intrinsic motivation. A child's positive attitude and positive self-image as a competent speller will contribute more to the child's progress than the extrinsic rewards of stars and stickers. Thus, this procedural statement is not supported by the research.

Overall, 91.3% of the respondents (see Table 9) either strongly agreed or agreed with this belief statement. However, when looking at the results from the corresponding procedural statement, we see that 34.5% of the respondents almost always or frequently used extrinsic rewards to motivate students. Only 42.3% of the respondents infrequently or almost never used stars and stickers to motivate children to do better in spelling. Looking at Table 9, we see that of those respondents who taught Kindergarten, 62.5% almost never gave extrinsic rewards to motivate good spelling which could be partially a reflec-

Table 10

Responses to Belief Statement 6a and to Procedural Statement 6b

	Belief Statement				Procedural Statement				
	% Strongly Agree/ Agree	% Neither Agree nor Disagree	% Disagree/ Strongly Disagree	% Undecided	%Almost Always	% Frequently	% Sometimes	% Infrequently	% Almost Never
Overall	76.2	13.5	6.4	3.8	47.2	30.6	19.7	0.5	2.1
K	62.5	12.5	12.5	0.0	12.5	12.5	12.5	0.0	50.0
1	62.5	12.5	12.5	4.1	54.1	16.6	20.8	0.0	0.0
2	69.2	15.4	7.7	3.8	50.0	30.8	15.4	0.0	0.0
3	84.0	16.0	0.0	0.0	48.0	40.0	12.0	0.0	0.0
4	92.9	3.6	3.6	0.0	60.7	25.0	14.3	0.0	0.0
5	84.2	10.5	5.3	0.0	26.3	31.6	31.6	5.3	0.0
6	68.0	16.0	8.0	8.0	32.0	36.0	32.0	0.0	0.0
7	64.7	11.8	11.8	11.8	35.3	41.2	17.6	0.0	0.0
Other	81.5	14.8	0.0	3.7	59.3	25.9	14.8	0.0	0.0

Both the belief statement and the corresponding procedural statement were supported by the research. Looking at Table10, we see that overall 76.2% of the respondents strongly agreed or agreed that a more formal spelling program must be in place. When looking at the reported classroom procedures, 77.8% of the respondents (see Table 10) almost always or frequently provided formal spelling lessons, which corresponded closely to the percentage of respondents who stated they believed that a more formal spelling program must be in place. However, 19.7% sometimes, 0.5% infrequently and 2.1% almost never provided formal spelling lessons. This means that 22.3% of the students were not receiving consistent formal spelling lessons in strategies and skills.

Looking at Table 10, those respondents who taught Grade 4 were in most agreement with this belief statement. Over 80% of those respondents who taught Grades 2, 3, 4 or Learning Assistance reported that they taught spelling lessons in a more formal setting. Inter-

estingly, it was the respondents who taught Grades 3, 4, 5 and Learning Assistance who indicated the strongest belief in a formal spelling program. Again, those respondents who taught Kindergarten indicated classroom practices which differed from those of the other respondents, which could be a reflection of the skill level of the students and/or the curriculum.

Formal Versus Informal Teaching II

Belief Statement:

6c. There is no field-tested substitute for direct instruction on the basic core of high-frequency words needed in child and adult writing.

Procedural Statement:

6d. As an elementary school teacher, I provide formal instruction using high-frequency words.

It is proposed that 2000 words make up approximately 95% of all words used when writing. It is necessary for children to be able to read these words and to use them in their writing. It is thus believed that these words must be taught as they are needed in child and adult writing. As it has already been established that a formal spelling program should be in place in the class, then it stands to reason that high-frequency words would be taught during the formal spelling program. This would help to ensure correct spelling of the most commonly used words and thus more effective communication.

The belief statement (6c) and the procedural statement (6d) stated above are both supported by the research. Although only 29.3% of the respondents (see Table 10.1) strongly agreed or agreed that there was no field-tested substitute for direct instruction on the basic core of high-frequency words needed in writing, 67.5% of the respondents (see Table 10.1) stated that they almost always or frequently taught the high-frequency words. The majority of the respondents -- 64.6% -- were either undecided or neither agreed nor disagreed that there was no field-tested substitute for direct instruction on the basic corof

high-frequency words. This could possibly be an indication of a 'whole language' approach whereby words to be spelled are learned in context.

Table 10.1

<u>Responses to Belief Statement 6c and to Procedural Statement 6d</u>

	Belief Statement				Procedural Statement				
	% Strongly Agree/ Agree	% Neither Agree nor Disagree	% Disagree/ Strongly Disagree	% Undecided	%Almost Always	% Frequently	% Sometimes	% Infrequently	% Almost Never
Overall	29.3	41.0	6.1	23.6	23.2	44.3	26.8	5.2	0.5
K	12.5	62.5	12.5	0.0	12.5	25.0	37.5	0.0	12.5
1	33.3	45.8	4.1	8.3	37.5	20.8	29.1	4.1	0.0
2	38.5	38.5	11.5	7.7	11.5	50.0	30.8	3.8	0.0
3	32.0	48.0	8.0	12.0	20.0	52.0	24.0	4.0	0.0
4	25.0	46.4	3.6	25.0	28.6	50.0	25.0	0.0	0.0
5	15.8	47.4	0.0	36.8	15.8	52.6	26.3	5.3	0.0
6	20.0	36.0	4.0	40.0	8.0	52.0	24.0	12.0	0.0
7	23.5	23.5	5.9	47.1	17.6	47.1	11.8	17.6	0.0
Other	40.7	25.9	7.4	25.9	40.7	29.6	29.6	0.0	0.0

When we look at Table 10.1, we find that those respondents who taught Grade 1, 2, or 3 were more likely to agree or strongly agree with the belief statement than were those respondents who taught Grade 4, 5, 6, or 7. Looking at the procedural statement, we find that 67.5% of the respondents indicated that they almost always or frequently provided formal instruction using high-frequency words. Those respondents who taught Kindergarten or Grade 7 were the least likely to often provide formal instruction using high-frequency words. These results could be attributed to the level of spelling skill at these grade levels. The Grade 3, 4 or 5 teachers were the most likely to provide formal instruction using high-frequency words.

Formal Versus Informal Teaching III

Belief Statement:

> 6e. Direct instruction cannot significantly affect the child's progress through the developmental stages of spelling.

Procedural Statement:

> 6f. As an elementary school teacher, I provide only indirect, informal instruction of spelling.

Table 10.2

Responses to Belief Statement 6e and to Procedural Statement 6f

	Belief Statement				Procedural Statement				
	% Strongly Agree/ Agree	% Neither Agree nor Disagree	% Disagree/ Strongly Disagree	% Undecided	%Almost Always	% Frequently	% Sometimes	% Infrequently	% Almost Never
Overall	3.9	9.2	81.1	5.8	21.1	41.8	27.3	7.7	2.1
K	12.5	0.0	75.0	0.0	25.0	25.0	12.5	25.0	0.0
1	4.1	12.5	70.8	4.1	37.5	33.3	16.6	4.1	0.0
2	3.8	3.8	84.6	3.8	7.7	65.4	19.2	3.8	0.0
3	4.0	4.0	84.0	8.0	20.0	60.0	16.0	4.0	0.0
4	0.0	7.1	82.1	10.7	28.6	35.7	35.7	0.0	0.0
5	15.8	42.1	47.4	0.0	10.5	36.8	42.1	10.5	0.0
6	4.0	4.0	84.0	8.0	20.0	20.0	44.0	16.0	0.0
7	0.0	5.9	82.4	11.8	29.4	17.6	35.3	17.6	0.0
Other	0.0	7.4	88.9	3.7	11.1	51.9	14.8	3.7	14.8

Many researchers maintain that formal teaching styles result in significantly greater gains in pupils' spelling skills than do informal methods. The formal study of words brings some sense of order to the English language. Therefore, this belief statement is not supported by the research.

Research has established that a formal program of word study must be in place to supplement what students learn through reading and writing to ensure that there are no gaps in their learning. Children must be provided with this knowledge to further the development of automaticity and decoding speed, which in turn affects comprehension. If children do not receive this information, they will tend to avoid practice which will only compound the problems. Thus, this procedural statement (6f) is not supported by the research.

Both the belief statement (6e) and the procedural statement (6f) above are not supported by the research. According to the research, direct instruction can significantly affect a child's progress. Of the respondents, 81.1% disagreed (see Table 10.2) with the above belief statement, apparently believing that direct instruction **could** significantly affect a child's progress. There was a high degree of consistency in the responses, except for those respondents who taught Grade 5, perhaps because the statement was worded in the negative. Although, respondents indicated that they felt that direct instruction could significantly affect a child's progress, 62.9% indicated that they almost always or frequently provided only indirect, informal instruction of spelling (see Table 10.2). This was most evident in Grades 1, 2, 3 and 4. In other words, many respondents stated that they believed in the beneficial effects of direct instruction but did not give direct instruction. Instead, a majority of the respondents chose to provide only indirect, informal instruction which indicates that they believed this to be the most efficacious method of teaching spelling. Overall, 16.5% of the respondents strongly disagreed with this statement and 64.6% disagreed that direct instruction could not significantly affect the child's progress through the developmental stages of spelling. Overall, 7.7% of the respondents stated that they infrequently and 2.1% stated that they almost never provided only indirect, informal instruction of spelling.

Conclusions.

Overall, the majority of the respondents indicated agreement with the research that a formal spelling program must be in place. Almost the same percentage of the respon-

dents indicated that they provided instruction in strategies and skills during formal spelling lessons. However, about one quarter of the respondents indicated less consistency in providing formal spelling lessons. Most of the respondents did not indicate agreement with the belief statement that there was no substitute for direct instruction on the basic core of high-frequency words needed in writing. Although there was indicated disagreement with the belief statement, many of the respondents indicated that they almost always or frequently provided formal instruction using high-frequency words, although a significant number also indicated a less consistent approach to the instruction of high-frequency words.

The respondents indicated strong disagreement with the statement that direct instruction could not significantly affect a child's progress. However, they also indicated that most of the time they provided only indirect, informal instruction of spelling. Overall, there seemed to be a preference towards formal instruction of spelling. However, the responses indicated a lack of consistency between philosophy and practice. In other words, indicated classroom practice did not always mirror indicated belief.

Inductive Versus Deductive Learning I

Belief Statement:

> 7a. Using inductive teaching strategies is a very meaningful and motivating activity to children.

Procedural Statement:

> 7b. As an elementary teacher, I use inductive teaching strategies such as helping children discover useful generalizations for themselves.

Research has shown that children are motivated to learn when they are actively engaged in the process. When a child is actively engaged in discussions and given the opportunity to construct theories about spelling, they are more motivated to learn and thus are far more likely to remember. Thus using inductive strategies is supported by the research.

Table 11

Responses to Belief Statement 7a and to Procedural Statement 7b

	Belief Statement				Procedural Statement				
	% Strongly Agree/ Agree	% Neither Agree nor Disagree	% Disagree/ Strongly Disagree	% Undecided	%Almost Always	% Frequently	% Sometimes	% Infrequently	% Almost Never
Overall	63.5	23.5	10.0	3.0	15.4	48.7	27.7	3.1	5.1
K	50.0	25.0	12.5	0.0	0.0	62.5	12.5	0.0	12.5
1	54.1	33.3	25.0	0.0	12.5	54.1	16.6	0.0	8.3
2	65.4	23.1	7.7	0.0	11.5	46.2	42.3	0.0	0.0
3	52.0	44.0	4.0	0.0	24.0	28.0	40.0	4.0	4.0
4	64.3	21.4	14.3	0.0	17.9	53.6	25.0	3.6	0.0
5	73.7	26.3	0.0	0.0	10.5	63.2	26.3	0.0	0.0
6	64.0	20.0	4.0	12.0	20.0	40.0	32.0	4.0	8.0
7	64.7	17.6	0.0	17.6	17.6	35.3	35.3	0.0	11.8
Other	77.8	3.7	18.5	0.0	14.8	55.6	7.4	11.1	7.4

When children are actively engaged, research has shown that they will learn faster and easier because they are motivated to learn. Inductive learning occurs when children are actively engaged. Therefore, the above mentioned procedural statement is supported by the research and teachers should be employing the strategies of inductive learning to ensure motivation and retention.

Both the previous belief statement and procedural statement are supported by the research. Looking at Table 11, we see that 63.5% of the respondents either strongly agreed or agreed that using inductive teaching strategies is a very meaningful and motivating activity to children. Those respondents who taught Grade 5 or Learning Assistance agreed most strongly. One quarter of those respondents who teach Grade 1 either disagreed or strongly disagreed with this belief statement. Perhaps there was a lack of understanding of the terminology used in the question.

When looking at the procedural statement, 64.1% of the respondents reported using inductive teaching strategies. However, 8.2% of the respondents infrequently or almost never used inductive teaching strategies. Again, looking at the results in Table 11 we see of those respondents who taught Kindergarten, Grade 6 or Grade 7, 12.5%, 12.0% and 11.8% respectively indicated that they infrequently or almost never used inductive teaching strategies. Of those respondents who fall into the 'Other' category, 18.5% indicated that they infrequently or almost never used inductive teaching strategies. This represents at least thirteen teachers who reportedly did not use this meaningful and motivating teaching strategy.

It is not surprising that Kindergarten teachers would indicate that they infrequently used inductive teaching strategies in spelling, as a formal word study program would not be commonly used in Kindergarten. This also would hold true for Learning Assistance, in which time is at a premium and children must play 'catch up'. However, it is surprising that those respondents teaching Grade 6 or Grade 7 would report not using inductive teaching strategies in spelling, as these grades would be an opportune age to use these strategies. Again, perhaps there was confusion in the terminology used, or perhaps less time is spent in these grades on spelling strategies.

Inductive Versus Deductive Learning II

Belief Statement:

> 7c. Learning to spell involves both cognitive and linguistic processes which require active participation.

Procedural Statement:

> 7d. As an elementary school teacher, I try to choose activities which actively involve the student.

Researchers maintained that educators should construct learning environments in which children had the opportunity to formulate, test and evaluate their own hypotheses about

English orthography. These inductive learning activities encourage and stimulate natural language through both cognitive and linguistic processes. Thus, this belief statement (7c) is supported by the research.

Table 11.1

Responses to Belief Statement 7c and to Procedural Statement 7d

	Belief Statement				Procedural Statement				
	% Strongly Agree/ Agree	% Neither Agree nor Disagree	% Disagree/ Strongly Disagree	% Undecided	%Almost Always	% Frequently	% Sometimes	% Infrequently	% Almost Never
Overall	58.9	10.8	26.1	4.1	36.8	54.4	8.8	0.0	0.0
K	62.5	0.0	25.0	0.0	25.0	62.5	0.0	0.0	0.0
1	45.8	4.1	29.1	12.5	41.6	50.0	0.0	0.0	0.0
2	73.1	0.0	19.2	3.8	34.6	50.0	15.4	0.0	0.0
3	64.0	8.0	24.0	0.0	52.0	48.0	0.0	0.0	0.0
4	39.3	21.4	35.7	3.6	42.9	57.1	0.0	0.0	0.0
5	63.2	10.5	26.3	0.0	26.3	57.9	15.8	0.0	0.0
6	68.0	8.0	24.0	0.0	24.0	56.0	20.0	0.0	0.0
7	52.9	17.6	29.4	0.0	29.4	47.1	23.5	0.0	0.0
Other	55.6	18.5	18.5	7.4	55.6	40.7	3.7	0.0	0.0

Children are motivated to learn when they are actively engaged in the process. When a child is actively engaged in discussions and given the opportunity to construct theories about spelling, they are thought to be far more likely to remember them. Thus, this procedural statement is supported by the research.

Table 11.1 shows us that 58.9% of the respondents agreed or strongly agreed that active participation was required in order to learn to spell. Of the other respondents, 26.1% disagreed or strongly disagreed and 14.9% were undecided or neither agreed nor disagreed. This indicates confusion about the learning process and the part that active participation plays in this process. Surprisingly, those respondents who taught Grade 1 and Grade 4 were least likely to agree with this statement. Looking at the responses to the procedural statement (7d), we find that 91.2% of the respondents indicated that they tried

to choose activities which actively involved the student. Again, although the percentages were still high, those respondents who taught Grade 6 and Grade 7 were most likely to report that they only sometimes chose activities which actively involved the student. (see Table 11) These results do not correspond to the results from the belief statement of those same teachers.

Conclusions.

Many of the respondents agreed that inductive teaching strategies were meaningful and motivating for children and an almost equal number of respondents indicated that they used inductive teaching strategies. However, one third of the respondents did not agree with the belief statement nor did they indicate using these strategies which indicates that one third of the teachers were confused about the nature of inductive teaching strategies.

The discrepancy between the results of the second belief statement and procedural statement indicates that (a) some of the respondents did not fully understand the relationship between active participation and the learning process and (b) some of the respondents were unclear of what constitutes activities which actively involve the student. There is also an indication that the respondents did not understand that inductive teaching strategies are activities which actively involve the student. Given the fact that this term (inductive teaching) is so common to the professional literature within education, this confusion is even harder to accept.

Phonics

Belief Statement:

    8a. Phonics is the major skill used in learning to spell.

Procedural Statement:

    8b. As an elementary school teacher, I provide phonics training for students.

Research has now shown that there is a high degree of phoneme-to-grapheme corre-

spondence in the English language. A high degree of phoneme-to-grapheme correspondence means that letter-sound patterns are fairly consistent and phonics is the study of letter-sound patterns. In other words, a knowledge of phonic patterns makes it easier for children to learn to spell. Therefore, this belief statement (8a) is supported by the research.

It is now generally agreed that a formal program of phonemic awareness and phonemic segmentation should be taught to young children. The ability to apply phonic generalizations is thought to be a valuable asset in spelling because phonic instruction alone may provide students with some preparatory processes to attack unfamiliar words and thus help them to perform slightly better both in Reading and in Spelling. Therefore, this procedural statement (8b) is supported by the research.

Table 12

Responses to Belief Statement 8a and to Procedural Statement 8b

	Belief Statement				Procedural Statement				
	% Strongly Agree/ Agree	% Neither Agree nor Disagree	% Disagree/ Strongly Disagree	% Undecided	%Almost Always	% Frequently	% Sometimes	% Infrequently	% Almost Never
Overall	46.7	28.7	19.5	5.1	25.3	34.0	31.4	5.7	3.6
K	50.0	12.5	12.5	12.5	25.0	37.5	12.5	0.0	12.5
1	58.3	16.6	16.6	0.0	54.1	37.5	0.0	0.0	0.0
2	42.3	19.2	30.8	3.8	26.9	57.7	11.5	0.0	0.0
3	32.0	28.0	32.0	8.0	20.0	52.0	24.0	4.0	0.0
4	42.9	39.3	14.3	3.6	14.3	35.7	50.0	0.0	0.0
5	57.9	36.8	5.3	0.0	5.3	15.8	68.4	0.0	5.3
6	60.0	20.0	8.0	12.0	0.0	16.0	56.0	20.0	8.0
7	52.9	23.5	11.8	11.8	0.0	17.6	41.2	29.4	5.9
Other	25.9	44.4	29.6	0.0	62.9	22.2	14.8	0.0	3.7

Overall, 46.7% of the respondents (see Table 12) agreed or strongly agreed that phonics is the major skill used in learning to spell. The other respondents indicated some confu-

sion or misunderstanding about phonics. Surprisingly, of those respondents who fell into the 'Other' category (Learning Assistants), only 25.9% agreed or strongly agreed that phonics was the major skill used in learning to spell. This makes one wonder what they do consider to be a major skill used in learning to spell.

As seen in Table 12, 59.3% of the respondents indicated that they almost always and/or frequently provided phonics training for students. Another 31.4% sometimes provided phonics training. When we look at the results in Table 12, we see that there was a definite trend to more phonics training for students in the younger grades and progressively less phonics training for students as they became older. Those respondents who were most likely to provide phonics training for their students were those who taught Grade 1 (91.6%), Grade 2 (84.6%), Grade 3 (72.0%) and those who fell into the 'Other' category (85.1%).

Conclusions.

Over the past decade the word 'phonics' has fallen into disrepute in many quarters. It must be questioned whether or not the results would have been different if the word 'phonics' had been replaced with 'sound-letter relationships' or some such description. Neverthe-less, those respondents who taught in the primary grades overwhelmingly indicated that they provided phonics training even though they didn't indicate the same level of support for the belief statement.

Spelling Rules I

Belief Statement:

> 9a. The spelling of English is not predictable enough to make the application of spelling rules useful.

Procedural Statement:

> 9b. As an elementary school teacher, I teach only strategies rather than spelling rules.

Researchers have shown that virtually all consonant sounds and some vowel sounds were represented by one grapheme over 80% of the time. There exists a high degree of phoneme-to-grapheme correspondence and therefore the teaching of spelling rules is a useful activity. The previous belief statement is not supported by the research. Looking at the procedural statement, it is now generally accepted that the more utilitarian spelling rules should be presented to students as they serve a useful function. Therefore, this procedural statement (9b) is not supported by the research.

Table 13

Responses to Belief Statement 9a and to Procedural Statement 9b

	Belief Statement				Procedural Statement				
	% Strongly Agree/ Agree	% Neither Agree nor Disagree	% Disagree/ Strongly Disagree	% Undecided	%Almost Always	% Frequently	% Sometimes	% Infrequently	% Almost Never
Overall	9.3	16.9	70.8	3.1	14.6	45.8	33.9	3.6	2.1
K	0.0	0.0	87.5	0.0	0.0	37.5	25.0	0.0	25.0
1	8.3	25.0	58.3	0.0	20.8	37.5	29.1	4.1	0.0
2	7.7	15.4	73.1	0.0	7.7	69.2	19.2	3.8	0.0
3	16.0	12.0	72.0	0.0	16.0	60.0	20.0	4.0	0.0
4	25.0	17.9	57.1	0.0	14.3	42.9	35.7	7.1	0.0
5	15.8	15.8	68.4	0.0	5.3	42.1	36.8	5.3	0.0
6	0.0	16.0	76.0	8.0	8.0	40.0	48.0	4.0	0.0
7	0.0	23.5	64.7	17.6	11.8	23.5	47.1	5.9	5.9
Other	0.0	14.8	77.8	7.4	29.6	33.3	33.3	0.0	3.7

Both the previous belief statement and the corresponding procedural statement are not supported by the research. Overall, of the respondents, 70.8% of the respondents disagreed or strongly disagreed with this statement (see Table 13). In other words, these respondents tended to believe that the spelling of English is predictable enough to make the application of spelling rules useful. Those respondents who taught Grade 3, Grade 4 or Grade 5 agreed most strongly with this statement.

Looking at the responses to the corresponding procedural statement, we find a different attitude. Even though most of the respondents felt that spelling rules could be useful, 60.4% indicated that they almost always or frequently taught strategies rather than spelling rules. This could be an indication that the wording of the procedural statement was confusing or it could be an indication that these respondents had a positive reaction to the word "strategies" and a negative reaction to the word "rules". Those respondents who taught Grade 3 (66.0%) and the Learning Assistants (62.9%) were most likely to teach spelling strategies, rather than rules.

Spelling Rules II

Belief Statement:

9c. Children need explicit instruction in some of the frequently-used spelling rules.

Procedural Statement:

9d. As an elementary school teacher, I teach frequently-used spelling rules, such as "*i* before *e*, except after *c*".

Many researchers maintain that children need explicit instruction in some of the frequently-used rules as it has been shown that children benefit from this activity. Therefore, this belief statement (9c) is supported by the research. Overall, 86.1 of the respondents (see Table 13.1) strongly agreed/ agreed that children need explicit instruction in some of the frequently-used spelling rules. As stated earlier, researchers have shown that the teaching of some of the more frequently-used spelling rules is of benefit to spellers. Thus, the procedural statement (9d) is supported by the research. Overall, 20.7% of the respondents almost always and 41.8% frequently teach frequently-used spelling rules.

Overall, 86.1% of the respondents (se Table 13.1) agreed that children needed explicit instruction in some of the frequently-used spelling rules. However, looking at the answers to the procedural statement, we find that only 20.7% of the respondents reported that they almost always and 41.8% reported that they frequently taught spelling rules. Of the

respondents who taught Kindergarten, 25.0% indicated almost never teaching frequently-used spelling rules. This is perhaps again a reflection of the skill level of the children and the curricular focus at this grade level. This notwithstanding, there was still a discrepancy of 23.6% overall between the stated belief that children needed explicit instruction in some of the spelling rules and the indicated classroom practice. This was particularly evident at the third grade level where the discrepancy between stated belief and indicated classroom procedure was 32.0%.

Table 13.1

Responses to Belief Statement 9c and to Procedural Statement 9d

	Belief Statement				Procedural Statement				
	% Strongly Agree/ Agree	% Neither Agree nor Disagree	% Disagree/ Strongly Disagree	% Undecided	%Almost Always	% Frequently	% Sometimes	% Infrequently	% Almost Never
Overall	86.1	9.2	3.6	1.0	20.7	41.8	29.3	3.8	4.3
K	87.5	0.0	0.0	0.0	25.0	12.5	12.5	12.5	25.0
1	66.7	12.5	12.5	0.0	21.0	21.0	41.6	0.0	8.0
2	76.9	11.5	7.7	0.0	19.2	42.3	30.8	3.8	0.0
3	92.0	0.0	8.0	0.0	16.0	44.0	36.0	4.0	0.0
4	85.7	10.7	0.0	3.6	21.4	46.4	21.4	14.3	0.0
5	84.2	10.5	0.0	5.3	0.0	63.2	31.5	0.0	0.0
6	88.0	12.0	0.0	0.0	28.0	44.0	28.0	0.0	0.0
7	88.2	11.8	0.0	0.0	41.2	29.4	23.5	0.0	0.0
Other	92.5	7.4	0.0	0.0	11.1	67.7	4.8	0.0	7.4

Conclusions.

Looking at the first set of responses, the respondents believed that spelling rules could be useful but very few of them reported teaching spelling rules. This means that perhaps very few of the students were being taught some 'signposts' which would help them attempt to spell unknown words in the future or to recall the spelling of words.

Looking at the second set of responses it showed that the respondents strongly believed that spelling rules needed to be taught but fewer respondents than this indicated that they did, in fact, teach the frequently-used spelling rules. This means that there was some confusion among the respondents as to the nature of effective classroom procedures in connection with the teaching of spelling rules.

Teaching Using Lists I

Belief Statement:

> 10a. Words initially presented in lists are most quickly learned, remembered longer and transferred more readily.

Procedural Statement:

> 10b. As an elementary school teacher, I present spelling words in lists, rather than in sentence or paragraph form.

Many researchers maintain that students should study spelling words in list form. If these words have a shared pattern or are high-frequency words, they will be learned faster, remembered longer and transferred more readily than words presented in paragraph form. Therefore, this belief statement (10a) is supported by the research. Looking at Table 14, we see that overall 12.8% of the respondents strongly agreed/ agreed with this statement. Researchers stated that children needed to be taught to consciously examine words and to make connections to other words. Choosing to concentrate only on words from a list provides a focus for both the teacher and the student. Therefore, this procedural statement (10b) is supported by the research. Overall, 30.5% of the respondents reported presenting spelling words in lists.

Both the belief statement and the procedural statement are supported by the research. Words presented in list form allow the child to focus on those particular words. However, overall only 12.8% of the respondents agreed or strongly agreed with this statement. In disagreement with this statement were 37.9% of the respondents. This is perhaps an in-

dication of a "learn words in context" philosophy. Perhaps lists were perceived as part of yesterday's curriculum and the prevailing educational belief system prevented people from identifying with something considered archaic. When looking at the answers to the procedural statement, we find that 56.0% of the respondents almost always or frequently presented words in lists, which is almost a direct contradiction of their stated belief. Interestingly, those respondents who taught Grade 3, Grade 4 or Grade 5 were most likely to present words in lists. From Table 14, we see that approximately half the teachers were requiring students to learn their spelling words by some other means other than in list form.

Table 14

Responses to Belief Statement 10a and to Procedural Statement 10b

	Belief Statement				Procedural Statement				
	% Strongly Agree/ Agree	% Neither Agree nor Disagree	% Disagree/ Strongly Disagree	% Undecided	%Almost Always	% Frequently	% Sometimes	% Infrequently	% Almost Never
K	0.0	50.0	37.5	0.0	0.0	25.0	12.5	0.0	50.0
Overall	12.8	36.4	37.9	12.8	30.5	25.5	29.5	5.5	9.0
1	16.6	37.5	37.5	0.0	29.1	20.8	20.8	8.3	12.5
2	23.1	34.6	34.6	3.8	15.4	26.9	50.0	0.0	3.8
3	4.0	36.0	44.0	16.0	44.0	28.0	24.0	0.0	4.0
4	7.1	35.7	39.3	17.9	57.1	25.0	10.7	3.6	7.1
5	15.8	42.1	36.8	5.3	26.3	52.6	10.5	5.3	5.3
6	16.0	44.0	16.0	24.0	28.0	24.0	44.0	20.0	4.0
7	11.8	47.1	11.8	29.4	35.3	0.0	47.1	5.9	5.9
Other	11.1	11.1	66.7	11.1	18.5	25.9	40.7	14.8	0.0

Teaching Using Lists II

Belief Statement:

10c. Spelling instruction should be based on lists of words grouped with auditory and visual similarities.

Procedural Statement:

10d. As an elementary school teacher, I provide for study lists of words which have similar phonemic or graphemic patterns.

Table 14.1

Responses to Belief Statement 10c and to Procedural Statement 10d

	Belief Statement				Procedural Statement				
	% Strongly Agree/ Agree	% Neither Agree nor Disagree	% Disagree/ Strongly Disagree	% Undecided	%Almost Always	% Frequently	% Sometimes	% Infrequently	% Almost Never
Overall	50.8	33.8	10.3	5.1	21.6	40.7	26.3	5.7	5.7
K	37.5	50.0	0.0	0.0	12.5	25.0	37.5	0.0	12.5
1	41.6	29.1	20.8	0.0	29.1	29.1	16.6	8.3	8.3
2	38.5	34.6	15.4	0.0	11.5	46.2	30.8	7.7	0.0
3	64.0	20.0	8.0	8.0	28.0	32.0	36.0	4.0	0.0
4	60.7	35.7	3.6	7.1	28.6	42.9	25.0	3.6	0.0
5	68.4	21.1	5.3	5.3	26.3	47.4	21.1	0.0	5.3
6	36.0	36.0	16.0	12.0	12.0	40.0	32.0	4.0	8.0
7	35.3	41.2	11.8	11.8	5.9	35.3	29.4	17.6	11.8
Other	74.1	22.2	3.7	0.0	33.3	37.0	14.8	3.7	7.4

Some researchers have stated that if teachers presented lists of words with shared spelling patterns, children will be more likely to remember the pattern and the words in the list. Also, they would more easily generalize this pattern and apply it to other words in the future. Therefore, it is maintained that lists of words should have similar phonemic or graphemic patterns. As shown in Table 14.1, we see that overall, 50.8% of the respondents strongly agreed or agreed with this belief statement.

Some research suggests that spelling lists should be comprised of words with similar auditory and visual similarities, which makes it easier for students to determine and generalize patterns. Thus, this procedural statement (10d) is supported by the research. Over-

all, 21.6% of the respondents almost always and 40.7% frequently provided lists of words which have similar phonemic or graphemic patterns.

Overall, 50.8% of the respondents agreed or strongly agreed that spelling instruction should be based on lists of words grouped with auditory and visual similarities, which contradicts the results of the previous belief statement. When we look at Table 14.1, we see that those respondents who taught Kindergarten, Grade 1, Grade 2, Grade 6 or Grade 7 were least likely to agree that spelling instruction should be based on lists of words grouped with auditory and visual similarities. This is very difficult to understand. In the primary grades, it is usual to learn reading vocabulary this way (cat, bat, mat) but not spelling apparently.

When we look at the responses to the procedural statement, we find that 62.3% of the respondents almost always or frequently provided for study lists of words which had similar phonemic or graphemic patterns. Of the respondents, 11.0% infrequently or almost never provided words with similar patterns. Were these respondents expecting the students to memorize their spelling words? Or, perhaps, these respondents did not provide their students with spelling lists. Those respondents who taught Grade 4, Grade 5 or 'Other' were most likely to almost always or frequently provide for study lists of words with similar patterns. Sometimes these response patterns defy reasonable explanations.

Teaching Using Lists III

Belief Statement:

10e. Spelling lists derived from the various curricular areas are of little value in increasing spelling ability.

Procedural Statement:

10f. As an elementary school teacher, I only use spelling words derived from other curricular areas.

Spelling lists should be comprised of words with phonemic, graphemic or morphemic simi-

larities to minimize rote memorization and to increase spelling ability. Therefore, unless

the words derived from curricular areas have such similarities, they are of little value in

increasing spelling ability. Therefore, the belief statement (10e) is supported by the re-

search. Overall, 18.5% of the respondents (see Table 14.2) strongly agreed or agreed

with the above belief statement.

Table 14.2

Responses to Belief Statement 10e and to Procedural Statement 10f

	Belief Statement				Procedural Statement				
	% Strongly Agree/ Agree	% Neither Agree nor Disagree	% Disagree/ Strongly Disagree	% Undecided	%Almost Always	% Frequently	% Sometimes	% Infrequently	% Almost Never
Overall	18.5	19.5	55.4	6.7	15.6	45.9	30.7	4.4	3.4
K	25.0	0.0	62.5	0.0	0.0	12.5	62.5	0.0	12.5
1	25.0	12.5	45.8	8.3	16.6	41.6	25.0	0.0	8.3
2	23.1	15.4	57.7	0.0	11.5	57.7	15.4	11.5	0.0
3	24.0	28.0	36.0	12.0	20.0	32.0	36.0	12.0	0.0
4	25.0	25.0	39.3	10.7	28.6	42.9	32.1	0.0	0.0
5	21.1	15.8	63.2	0.0	10.5	57.9	21.1	5.3	0.0
6	8.0	12.0	68.0	12.0	12.0	64.0	20.0	4.0	4.0
7	5.9	17.6	64.7	11.8	17.6	58.8	5.9	5.9	5.9
Other	7.4	29.6	62.9	0.0	14.8	40.7	40.7	0.0	3.7

As stated above, the use of spelling words derived from other curricular areas should not

occur unless the words selected conform to the pattern evident in the other words. There-

fore, the procedural statement (10f) above is not supported by the research. However,

61.5% of the respondents reported that they 'almost always' or 'frequently' used spelling

words derived from other curricular areas, which closely approximates the percentage of

those respondents who 'strongly disagreed' or 'disagreed' with the above belief statement.

The belief statement that spelling lists derived from the various curricular areas are of little value in increasing spelling ability is supported by the research. However, the procedural statement is not supported by the research. Overall, only 18.5% of the respondents 'agreed' or 'strongly agreed' that spelling lists derived from the various curricular areas were of little value. This is obviously the influence of the 'integrated, whole language' philosophy. This means that 55.4% of the respondents believed that spelling words should be taken from the writings of the children, from their readings and from the special events of the month. Those respondents who taught Grade 6 or Grade 7 were least likely to agree with this belief statement. Those respondents who taught Grade 3 or Grade 4 seemed to show the most confusion as there was an almost equal percentage of respondents in each of the three categories of agree/strongly agree, neither agree nor disagree and disagree/strongly disagree. It seemed as if the respondents were responding to what they considered as a reasonable educational endeavour even if this, in fact, was not reasonable in the acquisition of spelling competence.

When looking at the responses in Table 14.2 to the procedural statement, we find that 7.8% of the respondents infrequently or almost never used spelling words derived from other curricular areas. Of the respondents, 61.5% indicated that they used words derived from other curricular areas. Strategies, spelling rules or patterns cannot readily be taught or employed to help learn these words as they would not have any phonemic or graphemic similarities and therefore, no generalizations could be made. Therefore, each word would have to be learned separately. Is this not rote memorization?

Conclusions.

There is a large discrepancy between belief and practice when it comes to deciding in which form to present spelling words. This is possibly due to erroneous assumptions or interpretations about the whole language approach.

Experience tells us that children are more motivated when patterns and rhymes are incor-

porated into the teaching strategies. However, the results from the second belief and procedural statements provide nothing but questions about why the respondents did not rely on their knowledge of the effectiveness of patterns and rhymes. There seems to be confusion about presenting spelling words in lists and about using spelling words with the same phonemic or graphemic pattern.

Again, looking at the third set of questions pertaining to spelling lists, we find that research suggests that spelling words should not be derived from the curriculum to be included in spelling lists unless they have a similar phonemic or graphemic pattern to the other words in the list. Only 5.9% to 25.0% of the respondents agreed that spelling words from other curricular areas were of little value in increasing spelling ability. The others disagreed to varying degrees. This disagreement with the research was also apparent in the indicated classroom procedures. Excluding the Kindergarten teachers, from 52.0% to 76.0% of the respondents reported using practices which were not supported by the research.

Pretest-Study-Test and Self-Correction I

Belief Statement:

11a. The study-test method is superior to the pretest-study-test method when working with most spellers.

Procedural Statement:

11b. As an elementary school teacher, I administer a spelling pretest before the majority of pupils have had an opportunity to study the words for the week.

Many researchers supported the 'pretest-study-test' method for studying new words. This procedure identifies the words the children do not know. It builds positive attitudes in children towards spelling instruction and results in higher spelling achievement because the study of the missed words becomes more purposeful after ascertaining which words need to be studied. Thus the above belief statement (11a) is not supported by the re-

search. Overall, 56.2% of the respondents disagreed or strongly disagreed with the statement that the 'study-test' method was superior to the 'pretest-study-test' method. The other responses to the belief statement indicated a substantial amount of indecision about this belief statement.

Table 15

Responses to Belief Statement 11a and to Procedural Statement 11b

	Belief Statement				Procedural Statement				
	% Strongly Agree/ Agree	% Neither Agree nor Disagree	% Disagree/ Strongly Disagree	% Undecided	%Almost Always	% Frequently	% Sometimes	% Infrequently	% Almost Never
Overall	3.6	31.1	56.2	9.2	28.8	17.8	12.6	12.6	28.3
K	0.0	37.5	50.0	0.0	12.5	25.0	0.0	0.0	50.0
1	0.0	37.5	50.0	8.3	12.5	8.3	16.6	12.5	41.6
2	15.4	19.2	53.8	7.7	15.4	19.2	26.9	19.2	15.4
3	8.0	28.0	60.0	4.0	44.0	20.0	12.0	12.0	12.0
4	0.0	42.9	53.6	3.6	39.3	10.7	14.3	10.7	25.0
5	0.0	42.1	57.9	0.0	21.1	31.6	10.5	5.3	21.1
6	0.0	24.0	56.0	20.0	32.0	24.0	8.0	12.0	24.0
7	5.9	17.6	47.1	29.4	41.2	0.0	0.0	17.6	29.4
Other	0.0	29.6	62.9	7.4	22.2	18.5	7.4	11.1	40.7

The belief statement is not supported by the research but the corresponding procedural statement (11b) is supported by the research. Looking at the answers in Table 15 to the procedural statement, only 46.6% of the respondents indicated that they administered a spelling pretest almost always or frequently. Also, an almost equal amount (40.9%) indicated they infrequently or almost never administered a spelling pretest. Again, confusion about effective classroom practices is evident. The respondents who taught Grades 3-7 were more likely to administer a spelling pretest than those who taught Kindergarten-Grade 2. Those respondents who taught Kindergarten or Grade 1 were least likely to administer a spelling pretest. This is possibly due to the skill level of these children as

tests are impractical at the earlier grade levels. Also, perhaps the 'pre-test'-'study'-'post-test' regimen assumes spelling competence which isn't present to the same degree in these earlier grades.

The use of a spelling pretest indicates that some form of formal spelling program is in place. However, 62.9% of the respondents indicated earlier (see Table 10.2) that they only provided indirect, informal instruction in spelling. Again, we encounter confusion surrounding appropriate or effective classroom practices.

Pretest-Study-Test and Self-Correction II

Belief Statement:

11c. One of the single most important factors in learning to spell is the immediate self-correction of spelling mistakes by the student.

Procedural Statement:

11d. As an elementary school teacher, I always have students correct their own spelling tests.

Many researchers suggest that the teacher-guided student self-correction of the pretest is the single most important factor in learning to spell. Some researchers found that the pretest and immediate self-correction by the student could account for 90 to 95 percent of all the learning that occurred in spelling. Therefore, the belief statement (11c) is supported by the research. Overall, 43.6% of the respondents (see Table 15.1) strongly agreed or agreed that the immediate self-correction of spelling mistakes was one of the most important factors in learning to spell. Over twenty-five percent -- one teacher in four -- disagreed/strongly disagreed or was undecided that this rather basic spelling strategy was very important.

A large number of researchers suggest that immediate and positive feedback is neces-

sary if students are to attain the goal of mature spelling. They maintain that the single best method for learning to spell individual words was the 'corrected test' method where the students corrected their own spelling results. Therefore, this procedural statement (11d) is supported by the research. Overall, 9.4% almost always and 23.6% frequently had students correct their own tests.

Table 15.1

Responses to Belief Statement 11c and to Procedural Statement 11d

	Belief Statement				Procedural Statement				
	% Strongly Agree/ Agree	% Neither Agree nor Disagree	% Disagree/ Strongly Disagree	% Undecided	%Almost Always	% Frequently	% Sometimes	% Infrequently	% Almost Never
Overall	43.6	29.7	17.9	8.7	9.4	23.6	22.5	16.2	28.3
K	62.5	25.0	0.0	0.0	0.0	12.5	12.5	12.5	50.0
1	50.0	20.8	12.5	0.0	4.1	16.6	16.6	8.3	45.8
2	30.8	19.2	38.5	7.7	7.7	19.2	15.4	19.2	34.6
3	24.0	44.0	28.0	4.0	0.0	24.0	28.0	16.0	32.0
4	42.9	28.6	17.9	10.7	10.7	21.4	25.0	10.7	35.7
5	52.6	42.1	0.0	5.3	10.5	26.3	15.8	21.1	15.8
6	48.0	40.0	0.0	12.0	16.0	36.0	20.0	20.0	8.0
7	58.8	29.4	0.0	11.8	5.9	29.4	23.5	17.6	11.8
Other	37.0	14.8	37.0	11.1	18.5	14.8	29.6	14.8	18.5

The above belief statement (11c) and corresponding procedural statement (11d) are both supported by the research. Immediate self-correction by the students **is** an important factor in learning to spell. Overall, 43.6% of the respondents agreed or strongly agreed with the belief statement. However, only 33.0% indicated that they had students correct their own spelling tests. The use of the 'pretest-study-test' method and immediate self-correction are very important factors in learning to spell, according to the research but most teachers indicated that they were not using these techniques. A noteworthy exception were those respondents who taught Grade 6, as over half of them indicated that they

almost always or frequently had their students correct their own spelling tests. Understandably, only 12.5% of those respondents who taught Kindergarten and 20.7% of those respondents who taught Grade 1 indicated that they had their students correct their own spelling tests. Many of these younger students are not socialized to the extent that this could be feasible.

Conclusions.

Many of the respondents believed that the 'study-test -method' was not superior to the 'pretest-study-test' method. However, there was no clear indication that this belief translated into classroom practice. Also, the respondents did not show a clear understanding of the importance of immediate self-correction.

Proofreading

Belief Statement:

12a. Proofreading is a key step in the spelling process, as proofreading actively involves students.

Procedural Statement:

12b. As an elementary school teacher, I provide instruction in proofreading.

Many researchers agree that proofreading plays an important part in the spelling process as proofreading actively involves students, encouraging them to locate their own errors and deciding on a strategy for correcting them. Therefore, this belief statement (12a) is supported by the research. Looking at Table 16, we see that overall 62.7% of the respondents strongly agreed or agreed with the statement that proofreading was a key step in the spelling process.

As has been previously stated, proofreading involves the active participation of the student which is highly motivating for the student. Therefore, this procedural statement

(12b) is supported by the research. Overall, 24.7% of the respondents indicated that they almost always provided instruction in proofreading and another 47.9% indicated that they frequently provided instruction in proofreading. Therefore, some 72% used proofreading as a classroom procedure, which is about 10% more than recognized it as a defendable theory or strategy.

The belief statement (12a) and the corresponding procedural statement (12b) are both supported by the research. Overall, 62.7% of the respondents, nearly two thirds of the sample, agreed or strongly agreed that proofreading is a key step in the spelling process. Incredibly, the respondents who taught Grade 7 were least likely to agree with this belief statement. Proofreading is a mature skill and Grade 7 students are approaching mature standard spelling skills. One cannot help but wonder what these Grade 7 teachers considered to be a key step in the spelling process.

Table 16

Responses to Belief Statement 12a and to Procedural Statement 12b

	Belief Statement				Procedural Statement				
	% Strongly Agree/ Agree	% Neither Agree nor Disagree	% Disagree/ Strongly Disagree	% Undecided	%Almost Always	% Frequently	% Sometimes	% Infrequently	% Almost Never
Overall	62.7	28.0	8.3	1.0	24.7	47.9	15.5	6.7	5.2
K	62.5	12.5	12.5	0.0	0.0	37.5	0.0	0.0	50.0
1	62.5	25.0	4.1	0.0	8.3	41.6	12.5	20.8	8.3
2	57.7	30.8	7.7	0.0	11.5	57.7	19.2	3.8	3.8
3	52.0	24.0	16.0	4.0	28.0	44.0	24.0	4.0	0.0
4	60.7	25.0	7.1	3.6	50.0	42.9	10.7	0.0	0.0
5	73.7	26.3	0.0	0.0	10.5	63.2	15.8	0.0	0.0
6	64.0	32.0	4.0	0.0	24.0	52.0	12.0	12.0	4.0
7	47.1	41.2	11.8	0.0	29.4	41.2	11.8	17.6	0.0
Other	66.7	22.2	11.1	0.0	33.3	37.0	18.5	0.0	7.4

Looking at the responses in Table 16 to the procedural statement, we find that 71.6% of the respondents almost always or frequently provided instruction in proofreading. This is undoubtedly a result of the 'Writing Process' movement, as proofreading is an integral part of this process. Noteworthy is the fact that 92.9% of those respondents who taught Grade 4 indicated that they provided instruction in proofreading. Of all the respondents, 11.9% infrequently or almost never provided proofreading instruction. Of those respondents who taught Kindergarten, 50.0% almost never provided proofreading instruction. This is understandable. Also, it is understandable that 29.1% of those respondents who taught Grade 1 and 7.4% of the 'Other' category infrequently or almost never provided proofreading instruction. However, what is surprising is that 16.0% of Grade 6 teachers and 17.6% of Grade 7 teachers infrequently or almost never provided proofreading instruction. At this age level, students are well on their way to becoming mature, competent spellers and proofreading should play an important part in their instruction to enable them to communicate as effectively as possible.

Conclusions.

The respondents strongly agreed with the research-supported statement that proofreading was the key step in the spelling process and also put this principle into practice.

Handwriting I

Belief Statement:

> 13a. Slow and laborious handwriting may detract from concentration on the spelling of a word.

Procedural Statement:

> 13b. As an elementary school teacher, I provide handwriting instruction as an aid to efficient spelling development.

Because handwriting provides a sensory cue to the spelling of a word, researchers felt that poorly formed words made the visual imagery of those words less exact. If children

are concentrating on writing each individual letter, then they are not concentrating on the spelling of the word. A kinesthetic memory is not released spontaneously and gets lost in the task of letter formation. Therefore, this belief statement (13a) is supported by the research. Overall, 66.1% of the respondents (see Table 17) strongly agreed or agreed that poor handwriting might detract from concentration on the spelling of a word.

As handwriting and spelling facilitate communication, teachers must ensure that children develop these skills. Misformed and illegible letters cause words to appear misspelled, to be misunderstood or not to be understood at all. A strong visual memory is not built up. Therefore, the above procedural statement (13b) is supported by the research. Overall, 16.5% of the respondents (see Table 17) almost always and 27.8% frequently provide handwriting instruction.

Table 17

Responses to Belief Statement 13a and to Procedural Statement 13b

	Belief Statement				Procedural Statement				
	% Strongly Agree/ Agree	% Neither Agree nor Disagree	% Disagree/ Strongly Disagree	% Undecided	%Almost Always	% Frequently	% Sometimes	% Infrequently	% Almost Never
Overall	66.1	16.9	9.2	7.7	16.5	27.8	21.6	14.4	19.6
K	50.0	12.5	25.0	0.0	12.5	12.5	0.0	0.0	62.5
1	62.5	12.5	4.1	0.0	8.3	16.6	29.1	8.3	29.1
2	73.1	11.5	11.5	0.0	7.7	19.2	50.0	7.7	11.5
3	64.0	20.0	12.0	4.0	20.0	28.0	28.0	12.0	12.0
4	85.7	7.1	3.6	3.6	46.4	32.1	10.7	3.6	10.7
5	57.9	21.1	15.8	5.3	10.5	36.8	10.5	21.1	10.5
6	56.0	24.0	8.0	12.0	4.0	40.0	12.0	24.0	24.0
7	41.2	35.3	5.9	17.6	17.6	23.5	5.9	11.8	35.3
Other	70.4	11.1	7.4	11.1	11.1	25.9	22.2	29.6	11.1

The belief statement (13a) and the procedural statement (13b) above are both supported by the literature. Overall, 66.1% of the respondents (see Table 17) agreed that slow and laborious handwriting may detract from concentration on the spelling of a word. However, 9.2% disagreed or strongly disagreed with this. Those respondents who taught Kindergarten, Grade 5, Grade 6 and Grade 7 were least likely to agree with this statement. This is perhaps understandable given the manual dexterity of students at the Kindergarten grade levels but at the other levels it is less understandable. The respondents who taught Grade 4 were, once again, the most likely to agree with this statement. Overall, only 44.3% of the respondents almost always or frequently provided handwriting instruction. Once again, those respondents who taught Grade 4 were the most likely to provide handwriting instruction. Of note is the fact that 34.0% of the respondents indicated that they infrequently or almost never provided handwriting instruction. Perhaps the respondents have never associated handwriting with spelling development. Understandably, 62.5% of Kindergarten teachers indicated that they almost never provided handwriting instruction. However, it is interesting that 31.6% of those who taught Grade 5, 48.0% of those who taught Grade 6 and 47.1% of those who taught Grade 7 indicated that they infrequently or almost never provided handwriting instruction. In other words, many of the students in Grade 5-7 are not being provided with consistent handwriting instruction.

Handwriting II

Belief Statement:

13c. Handwriting does not influence the spelling of a word.

Procedural Statement:

13d. As an elementary school teacher, I provide handwriting instruction informally only.

Researchers stated that slow and laborious writing might detract from concentration on spelling. Poorly formed words make visual imagery less exact. Handwriting provides a sensory cue to the spelling of words. Poor spelling leads to less attention being paid to the

spelling of words. Therefore, this belief statement (13c) is not supported by the research. Looking at the responses in Table 17.1, we see that overall, 55.9% disagreed or strongly disagreed that handwriting did not influence the spelling of a word.

Table 17.1

Responses to Belief Statement 13c and to Procedural Statement 13d

	Belief Statement				Procedural Statement				
	% Strongly Agree/ Agree	% Neither Agree nor Disagree	% Disagree/ Strongly Disagree	% Undecided	%Almost Always	% Frequently	% Sometimes	% Infrequently	% Almost Never
Overall	14.9	19.5	55.9	9.7	8.4	12.6	22.5	16.2	40.3
K	0.0	0.0	87.5	0.0	0.0	12.5	12.5	12.5	50.0
1	0.0	33.3	41.6	16.6	16.6	0.0	12.5	8.3	54.1
2	19.2	23.1	42.3	11.5	7.7	0.0	26.9	15.4	46.2
3	20.0	24.0	52.0	4.0	4.0	0.0	12.0	12.0	72.0
4	7.1	21.4	64.3	7.1	0.0	7.1	17.9	28.6	46.4
5	5.3	21.1	68.4	5.3	5.3	10.5	47.4	15.8	10.5
6	20.0	16.0	56.0	8.0	12.0	32.0	32.0	12.0	12.0
7	35.3	5.9	52.9	5.9	23.5	29.4	11.8	17.6	5.9
Other	18.5	11.1	55.6	14.8	3.7	22.2	18.5	14.8	33.3

It has been shown that a multi-sensory approach to teaching spelling will be more successful than an approach which utilizes only rote memory, for instance. Handwriting is a sensory cue to the spelling of words and poorly formed words make visual imagery less exact, reducing this channel for learning. Some of the researchers have stated that slow and laborious writing may detract from concentration on the spelling of a word. Therefore, to encourage concentration on the spelling of words and to utilize as many of the sensory channels as possible, researchers support formal instruction in handwriting. Thus, the procedural statement (13d) is not supported by the research. Overall, 16.2% of the respondents infrequently provided only informal handwriting instruction. Another 40.3% almost never provided only informal handwriting instruction.

The belief statement (13c) and the procedural statement (13d) above are not supported by the research. Overall, 55.9% of the respondents disagreed or strongly disagreed that handwriting did not influence the spelling of a word. This approximates the percentage of respondents who agreed that slow and laborious handwriting might detract from concentration on spelling. It is interesting that 87.5% of the Kindergarten teachers disagreed/ strongly disagreed with the belief statement but only 41.6% of Grade 1 teachers disagreed/strongly disagreed with the belief statement. It is also interesting that generally the higher the grade level, the more likely the teachers were to agree that handwriting did not influence spelling, which does not match the research findings.

When looking at the answers in Table 17.1 to the procedural statement, we find that 56.5% of the respondents indicated that they infrequently or almost never provided only informal handwriting instruction. In contrast, however, another 21.0% indicated that they almost always or frequently provided *only* informal handwriting instruction. Overall, those respondents who taught Kindergarten, Grade 1-4 or 'Other' were less likely to provide handwriting instruction informally only than were those respondents who taught Gr. 5-7. No doubt, some of the responses are attributable to the negative wording of the statement which may have confused some of the respondents. It could also be that the teachers of the older grades felt that handwriting instruction did not greatly influence their students' spelling or that the older grades did not need handwriting instruction.

Conclusions.

A majority of the respondents agreed with the research-supported statement that slow and laborious handwriting might detract from concentration on the spelling of a word. Almost the same percentage of respondents disagreed that handwriting did not influence the spelling of a word. However, once again, agreement with the research did not necessarily mean that it would be translated into classroom practice.

Length of Spelling Instruction

Belief Statement:

14a. Time allotted for spelling instruction should be between 60 to 75 minutes per week.

Procedural Statement:

14b. As an elementary school teacher, I provide between 60 to 75 minutes a week of formal spelling instruction.

Table 18

Responses to Belief Statement 14a and to Procedural Statement 14b

	Belief Statement				Procedural Statement				
	% Strongly Agree/ Agree	% Neither Agree nor Disagree	% Disagree/ Strongly Disagree	% Undecided	%Almost Always	% Frequently	% Sometimes	% Infrequently	% Almost Never
Overall	43.1	32.3	17.4	7.2	31.4	28.3	12.0	9.9	18.3
K	25.0	50.0	0.0	12.5	12.5	25.0	0.0	0.0	50.0
1	33.3	33.3	25.0	0.0	29.1	25.0	12.5	4.1	20.8
2	42.3	26.9	23.1	3.8	42.3	11.5	19.2	11.5	11.5
3	60.0	24.0	16.0	0.0	52.0	28.0	8.0	8.0	4.0
4	57.1	25.0	17.9	0.0	35.7	42.9	10.7	7.1	7.1
5	42.1	36.8	15.8	5.3	26.3	21.1	15.8	15.8	10.5
6	32.0	32.0	20.0	16.0	16.0	32.0	12.0	12.0	28.0
7	29.4	35.3	17.6	17.6	11.8	23.5	0.0	17.6	35.3
Other	40.7	37.0	7.4	14.8	25.9	29.6	14.8	7.4	18.5

Some researchers have found that too lengthy a formal spelling period lowers, rather than raises, spelling achievement. They maintained that sixty to seventy-five minutes of formal spelling instruction spread out over the five-day school week was a justifiable amount of time. Therefore, the above belief statement (14a) is supported by the research. Overall, 43.1% of the respondents (see Table 18) strongly agreed or agreed that spelling instruction should be 60 to 75 minutes per week.

Research has shown that a formal spelling program must be in place within a classroom. Also, most researchers felt that more than 75 minutes a week spent on teaching spelling might well be spent more advantageously in other curriculum areas. Too much time spent on spelling per day could lower rather than raise spelling achievement. Therefore, this procedural statement (14b) is supported by the research. Overall, 31.4% almost always and 28.3% frequently provided between 60 to 75 minutes a week of formal spelling instruction.

Both the belief statement (14a) and the corresponding procedural statement (14b) on the previous page are supported by the research. Overall, 43.1% of the respondents agreed/ strongly agreed with the research-supported statement that time allotted for spelling instruction should be between 60 to 75 minutes per week. Even though only 43.1% agreed/ strongly agreed with the belief statement, 59.7% of the respondents indicated that they almost always or frequently provided between 60 to 75 minutes a week of formal spelling instruction.

According to Table 18, those respondents who taught Grade 3(80.0%) or Grade 4(78.6%) were most likely to provide between 60 to 75 minutes a week of formal spelling instruction. Perhaps it is at this age level that most teachers perceived a need for more formal spelling instruction. The teachers of Grade 3 and Grade 4 had indicated earlier that they supported the belief that a more formal spelling program should be in place (see Table 10). In contrast, many of those respondents who taught Grade 7(52.9%) indicated that they infrequently or almost never provided between 60 to 75 minutes a week of formal spelling instruction. This does not correspond to their responses to the belief statement in Table 10. One must question whether they provide more or less spelling instruction?

Conclusions.

In this instance, more respondents indicated that they implemented the research-based procedure than indicated they supported the research-supported belief statement.

Many respondents (see Table 10.2) indicated earlier that they provided only informal instruction, so we must question some respondents' understanding of formal versus informal instruction.

Pronunciation and Articulation

Belief Statement:

> 15a. Faulty pronunciation or careless articulation reduces the number of oral cues
>
> children have to aid them in translating spoken language into written symbols.

Procedural Statement:

> 15b. As an elementary school teacher, I try to make sure that children pronounce
>
> and articulate their spelling words very carefully.

Table 19

Responses to Belief Statement 15a and to Procedural Statement 15b

	Belief Statement				Procedural Statement				
	% Strongly Agree/ Agree	% Neither Agree nor Disagree	% Disagree/ Strongly Disagree	% Undecided	%Almost Always	% Frequently	% Sometimes	% Infrequently	% Almost Never
Overall	92.9	4.1	1.0	2.1	37.3	42.0	15.0	5.2	0.5
K	87.5	0.0	0.0	0.0	12.5	62.5	0.0	0.0	12.5
1	83.3	8.3	0.0	0.0	54.1	29.1	8.3	0.0	0.0
2	88.5	7.7	0.0	0.0	46.2	38.5	11.5	0.0	0.0
3	96.0	4.0	0.0	0.0	32.0	52.0	16.0	0.0	0.0
4	96.4	3.6	0.0	0.0	35.7	46.4	14.3	7.1	0.0
5	100.0	0.0	0.0	0.0	21.1	31.6	21.1	15.8	0.0
6	88.0	4.0	0.0	8.0	32.0	48.0	20.0	0.0	0.0
7	88.2	0.0	0.0	11.8	29.4	29.4	23.5	17.6	0.0
Other	88.9	3.7	7.4	0.0	40.7	37.0	11.1	0.0	7.4

Poor spellers have few strategies with which to attempt the spelling of an unknown word. One of the most common strategies used by poor spellers is to sound out the word pho-

neme by phoneme. As a result, if students are mispronouncing a word or phoneme, they will attempt to spell the mispronounced phoneme with an incorrect grapheme. Thus, this belief statement (15a) is supported by the research. Overall, 92.9% of the respondents strongly agreed and 70.3% agreed with this statement.

Some researchers have found that some errors are related more to incorrect articulation than to poor spelling. In order to ensure that visual, auditory and kinesthetic/tactile sensory channels were being utilized properly, researchers supported the notion that teachers should encourage their students to pronounce and articulate their spelling words very carefully. Therefore, the procedural statement (15b) is supported by the research. Overall, 79.3% of the respondents (see Table 19) indicated that they almost always and/or frequently encouraged careful pronunciation and articulation of spelling words which is not quite as high as the percentage of respondents who indicated support of the belief statement. Only those respondents who taught Grade 5(52.7%) and Grade 7(58.8%) indicated less focus on pronunciation and articulation, compared to an average of 79.3% for the other grades.

Conclusions.

The respondents clearly agreed that faulty pronunciation or careless articulation reduced the number of oral cues children had to aid them in translating spoken language into written symbols. The respondents also tended to support the procedural statement, indicating that many of them tried to make sure that children pronounced and articulated their spelling words very carefully.

Word Games

Belief Statement:

16a. Spelling games can play an important motivational role in the spelling curriculum.

Procedural Statement:

16b. As an elementary school teacher, I supplement my spelling program with spelling

games.

Table 20

<u>Responses to Belief Statement 16a and to Procedural Statement 16b</u>

	Belief Statement				**Procedural Statement**				
	% Strongly Agree/ Agree	% Neither Agree nor Disagree	% Disagree/ Strongly Disagree	% Undecided	%Almost Always	% Frequently	% Sometimes	% Infrequently	% Almost Never
Overall	88.8	10.3	1.0	0.0	13.6	28.8	36.1	14.1	7.3
K	62.5	25.0	0.0	0.0	12.5	0.0	50.0	0.0	25.0
1	79.2	12.5	0.0	0.0	12.5	41.6	29.1	4.1	4.1
2	88.0	7.7	0.0	0.0	26.9	34.6	19.2	15.4	0.0
3	96.0	4.0	0.0	0.0	20.0	20.0	44.0	16.0	0.0
4	96.4	3.6	0.0	0.0	17.9	21.4	46.4	14.3	3.6
5	89.5	10.5	0.0	0.0	10.5	21.1	21.1	26.3	10.5
6	88.0	12.0	0.0	0.0	0.0	24.0	40.0	20.0	16.0
7	82.4	17.6	0.0	0.0	0.0	23.5	41.2	5.9	17.6
Other	81.5	11.1	7.4	0.0	11.1	37.0	29.6	11.1	3.7

Many researchers have agreed that spelling games were challenging and motivational

activities with which to supplement the spelling program. Written games can stimulate

student interest, promote inquiry and experimentation and can provide a setting in which

students can formulate generalizations about spelling. Therefore, the above belief state-

ment (16a) is supported by the research. Looking at Table 20, we see that overall 88.8%

of the respondents strongly agreed or agreed that spelling games could play an important

motivational role in the spelling program.

If students are interested and motivated in an activity, they are more likely to assimilate the

concepts involved. The research supported the notion that spelling games were highly

motivational and thus were more likely to engage children in their own learning. There-fore, this procedural statement (16b) is supported by the research. Overall, 42.4% of the respondents (see Table 20) almost always and/or frequently supplemented their spelling program with spelling games.

Both the belief statement (16a) and the procedural statement (16b) above are supported by the research. Overall 88.8% agreed/strongly agreed that spelling games can play an important motivational role in the spelling curriculum. Only those respondents who taught Kindergarten (62.5%) were less likely to agree than the other respondents. However, once again we find that the agreement with a research-supported statement did not nec-essarily mean that the respondents used the technique in their classrooms.

Looking at the responses to the procedural statement in Table 20, shows us that only 42.4% of the respondents almost always or frequently supplemented their spelling pro-grams with spelling games and 21.4% of the respondents indicated that they infrequently or almost never supplemented their spelling programs with spelling games. Of those respondents who taught Kindergarten, 25.0% indicated they almost never supplemented their spelling programs with spelling games, which is understandable given the level of written skills of the students. However, 36.8% of Grade 5 teachers, 36.0% of Grade 6 teachers and 23.5% of Grade 7 teachers indicated that they infrequently or almost never incorporated spelling games into their programs. Also, only 24.0% of the Grade 6 teach-ers and 23.5% of the Grade 7 teachers indicated that they almost always or frequently supplemented their spelling programs with spelling games. These teachers are omitting an important motivational aspect of the spelling program.

Conclusions.

Again, we find that strong agreement with a research-supported statement did not neces-sarily mean that teachers implemented the procedures in their classrooms. It seems that although the respondents agreed strongly with those statements containing motivational

aspects of learning to spell, they did not always incorporate the motivational aspects into their classroom practices.

Writing Words Several Times

Belief Statement:

17a. Writing words several times each helps insure spelling retention.

Procedural Statement:

17b. As an elementary school teacher, I expect children to correct misspelled words by writing them several times each.

Table 21

Responses to Belief Statement 17a and to Procedural Statement 17b

	Belief Statement				Procedural Statement				
	% Strongly Agree/ Agree	% Neither Agree nor Disagree	% Disagree/ Strongly Disagree	% Undecided	%Almost Always	% Frequently	% Sometimes	% Infrequently	% Almost Never
Overall	24.2	39.5	30.7	5.6	5.2	19.2	26.4	17.6	31.6
K	37.5	25.0	25.0	12.5	25.0	0.0	12.5	0.0	62.5
1	29.1	29.1	33.3	4.1	4.1	12.5	12.5	16.6	50.0
2	23.1	34.6	34.6	3.8	3.8	11.5	26.9	19.2	34.6
3	16.0	60.0	20.0	0.0	0.0	16.0	40.0	16.0	28.0
4	25.0	42.9	17.9	10.7	7.1	21.4	42.9	10.7	25.0
5	31.6	31.6	36.8	0.0	10.5	26.3	21.1	10.5	21.1
6	20.0	36.0	32.0	12.0	0.0	28.0	20.0	20.0	32.0
7	23.5	35.3	29.4	11.8	5.9	29.4	11.8	17.6	23.5
Other	18.5	40.7	40.7	0.0	3.7	14.8	25.9	29.6	18.5

We know that rote memorization does not work. Researchers stated that writing words several times was tantamount to rote memorization and promoted poor habits, poor attitudes and incorrect spelling. Therefore, the above belief statement (17a) is not supported by the research. However, overall, only 30.7% of the respondents (see Table 21) disagreed or strongly disagreed that writing words several times each helped insure spelling

retention.

Researchers stated that requiring children to write words several times encouraged poor habits, poor attitudes and incorrect spelling. Therefore, this procedural statement (17b) is not supported by the research. Overall, only 17.6% of the respondents infrequently and 31.6% almost never required children to correct misspelled words by writing them several times each.

Overall, only 30.7% of the respondents disagreed/strongly disagreed with the belief statement that writing words several times each helped insure spelling retention. Many of the respondents (45.1%) were either undecided or neither agreed nor disagreed. This does indicate some confusion about this belief, as another 24.2% of the respondents agreed/ strongly agreed that writing words several times each helped insure spelling retention. Individually, those respondents who taught Learning Assistance ('Other') were most likely to disagree and those respondents who taught Grade 4 were least likely to disagree with the belief.

Looking at the responses in Table 21 to the procedural statement, we find that 49.2% of the respondents infrequently or almost never expected children to correct misspelled words by writing them several times each. However 24.4% of the respondents almost always or frequently expected children to correct misspelled words by writing them several times each. Research suggests that following this practice is not motivational and encourages sloppiness. Looking at Table 21, we see that the trend was for the respondents who taught from Grade 3 and up to require the writing of misspelled words several times each. Research says that this is ineffectual. This may well have been the practice which occurred when these teachers were students. Are these teachers frustrated or confused as to which procedures to employ to teach spelling these days and are they therefore reverting to how they were taught to spell?

<u>Conclusions.</u>

There is evidence that there is much confusion among the respondents surrounding the question of writing words several times as a part of spelling instruction. The research stated that this was an ineffective practice but the responses indicated that the teachers were uncertain as to what constituted effective practices. Again, the respondents seemed uncertain what constituted a motivational activity and what did not.

The Meanings of Spelling Words

Belief Statement:

> 18a. Because most words taught in the first six grades are those most often used by children in writing and those most familiar to children, teaching the meanings of each word is a wasteful practice.

Procedural Statement:

> 18b. As an elementary school teacher, I only use words for spelling practice for which children already know the meaning.

Table 22

<u>Responses to Belief Statement 18a and to Procedural Statement 18b</u>

	Belief Statement				Procedural Statement				
	% Strongly Agree/ Agree	% Neither Agree nor Disagree	% Disagree/ Strongly Disagree	% Undecided	%Almost Always	% Frequently	% Sometimes	% Infrequently	% Almost Never
Overall	10.2	14.4	72.8	2.6	27.8	26.3	23.2	9.8	12.9
K	0.0	25.0	62.5	0.0	12.5	37.5	0.0	12.5	25.0
1	20.8	25.0	45.8	0.0	54.1	8.3	20.8	8.3	0.0
2	11.5	15.4	69.2	0.0	26.9	15.4	38.5	7.7	7.7
3	16.0	8.0	76.0	0.0	16.0	36.0	32.0	4.0	12.0
4	7.1	10.7	78.6	3.6	32.1	35.7	21.4	7.1	10.7
5	10.5	10.5	78.9	0.0	21.1	26.3	21.1	10.5	10.5
6	4.0	8.0	80.0	8.0	16.0	28.0	28.0	12.0	16.0
7	5.9	5.9	76.5	11.8	5.9	17.6	23.5	17.6	23.5
Other	7.4	22.2	70.4	0.0	40.7	29.6	3.7	11.1	7.4

Researchers stated that there was a significant relationship between understanding a word and the ability to spell it. Because a broad reading, writing and speaking vocabulary correlated closely with general spelling ability, they went on to state that the spelling program should to some extent also be a vocabulary program. Therefore, the above belief statement (18a) is not supported by the research. Overall, 72.8% of the respondents (see Table 22) disagreed or strongly disagreed with this statement.

Some researchers believe that students should have no need to spell a word for which they had no meaning. Because researchers also believed that the spelling program should to some extent also be a vocabulary program as well, it followed that the students would already know the meanings of the words which they would be practising. Therefore, the above procedural statement (18b) is supported by the research. Overall, only 54.1% of the respondents almost always and/or frequently used words for which children already knew the meaning. This means that almost half of the teachers did not ensure that students knew the meanings of their spelling words.

The belief statement (18a) is not supported by the research. Many researchers suggested that the spelling program should, in part, be a vocabulary program as well. Overall, 72.8% of the respondents disagreed/strongly disagreed with the belief statement, while 10.2% of the respondents agreed/strongly agreed with it. Does this mean that the latter teachers did not ensure that the children understood the meaning of the words they were expected to spell?

Looking at the responses in Table 22 to the procedural statement, we find that only 54.1% of the teachers used words for which children already knew the meaning. Of the respondents, 22.7% infrequently or almost never used words for which children already knew the meaning. Why would children want to spell words for which they don't know the meaning? Is not spelling a tool used to communicate more effectively? How can one communicate effectively if one does not know the meaning of the words one is spelling? Once again,

those respondents who taught Grade 5(47.4%), Grade 6(44.0%) and Grade 7(23.5%) indicated that they were least likely to use words for spelling practice for which children already knew the meaning. Perhaps they give the meanings for the words *after* the children have learned to spell them.

Conclusions.

Research has suggested that children should already know the meanings of the words which they are expected to spell and thus the spelling program should also be a vocabulary program to some degree. Even though the respondents agreed with this statement, they did not follow through in classroom practice.

Dictionary Skills

Belief Statement:

> 19a. Instruction in the use of the dictionary during spelling instruction should be
>
> specifically directed toward the correction of spelling errors.

Procedural Statement:

> 19b. As an elementary school teacher, I encourage the use of the dictionary for
>
> proofreading the spelling of written work.

Many researchers agree that dictionary skills should be taught as an aid to finding the correct spellings of words. Other dictionary activities should be used sparingly. Therefore, the above belief statement (19a) is supported by the research. Looking at Table 23, we see that overall, 14.9% of the respondents strongly agreed or agreed that the use of the dictionary during spelling instruction should be specifically directed toward the correction of spelling errors.

Some researchers have stated that exercises using the dictionary which include diacritical markings, alphabetizing and finding word meanings are more appropriate for other areas of the language arts curriculum. The dictionary should be used as an aid for finding

the correct spellings of words. Therefore, the above procedural statement (19b) is supported by the research. Overall, 16.2% of the respondents (see Table 23) almost always and 31.4% frequently encouraged the use of the dictionary for proofreading the spelling of written work.

Table 23

Responses to Belief Statement 19a and to Procedural Statement 19b

	Belief Statement				Procedural Statement				
	% Strongly Agree/ Agree	% Neither Agree nor Disagree	% Disagree/ Strongly Disagree	% Undecided	%Almost Always	% Frequently	% Sometimes	% Infrequently	% Almost Never
Overall	14.9	18.6	61.4	5.2	16.2	31.4	24.6	12.6	15.2
K	37.5	25.0	25.0	0.0	0.0	25.0	0.0	12.5	50.0
1	20.8	20.8	45.8	4.1	0.0	25.0	20.8	4.1	41.6
2	3.8	19.2	65.4	3.8	7.7	30.8	30.8	15.4	11.5
3	8.0	12.0	72.0	8.0	8.0	28.0	24.0	20.0	20.0
4	21.4	21.4	53.6	3.6	28.6	35.7	32.1	7.1	3.6
5	10.5	26.3	63.2	0.0	10.5	36.8	26.3	10.5	5.3
6	20.0	8.0	64.0	8.0	36.0	36.0	8.0	16.0	4.0
7	29.4	0.0	58.8	11.8	29.4	29.4	23.5	5.9	0.0
Other	0.0	29.6	66.7	3.7	11.1	22.2	29.6	14.8	14.8

Both the belief statement (19a) and the corresponding procedural statement (19b) are supported by the research. Researchers stated that instruction in the use of the dictionary, other than for the purpose of correcting spelling errors, was more appropriate during another part of the Language Arts curriculum. However, only 14.9% of the respondents agreed with this statement. Those respondents who taught Kindergarten (37.5%) and those who taught Grade 7 (29.4%) were most likely to agree. Of the respondents, 61.4% disagreed/strongly disagreed that instruction in the use of the dictionary during spelling instruction should be specifically directed toward the correction of spelling errors. Does this mean that these respondents felt that instruction using alphabetical order, diacritical

marks or finding dictionary respellings was best done during spelling instruction?

Looking at the responses in Table 23 to the procedural statement, we find that 47.6% of the respondents almost always or frequently encouraged the use of the dictionary for proofreading the spelling of written work. Not surprisingly, those respondents who taught Kindergarten or Grade 1 were the least likely to encourage the use of the dictionary for proofreading. Those respondents teaching Grades 4-7 were the most likely to encourage the use of the dictionary for proofreading.

Conclusions.

Although the research supports instruction in the use of dictionary during spelling instruction specifically for correction of spelling errors, most of the respondents disagreed/strongly disagreed. Procedurally, this translated into no clear trend or tendency among the respondents. It seems that when there is a lack of understanding of the belief statement, it corresponds to a lack of understanding of effective classroom procedures.

Commercial Spelling Programs

Belief Statement:

20a. Commercial spelling programs should not be used.

Procedural Statement:

20b. As an elementary school teacher, I use only a commercial spelling program with my students.

According to some research, although there are problems with commercial spelling programs, teachers can meet the needs of spellers by using commercial spelling programs judiciously. Therefore, the above belief statement (20a) is not supported by tresearch. Looking at the responses to the belief statement in Table 24, we see that overall 53.9% of the respondents disagreed and 3.1% strongly disagreed that commercial spelling programs should not be used.

Because there seem to be flaws in commercial spelling programs, researchers stated that commercial spelling programs should be supplemented with some judicious dictionary instruction and some spelling games, as well as instruction in spelling strategies. Therefore, the above procedural statement (20b) is not supported by the research. Overall, 21.5% of the respondents infrequently and 49.7% almost never used only a commercial program.

Table 24

Responses to Belief Statement 20a and to Procedural Statement 20b

	Belief Statement				Procedural Statement				
	% Strongly Agree/ Agree	% Neither Agree nor Disagree	% Disagree/ Strongly Disagree	% Undecided	%Almost Always	% Frequently	% Sometimes	% Infrequently	% Almost Never
Overall	7.2	29.0	57.0	6.7	2.6	8.9	17.3	21.5	49.7
K	12.5	12.5	50.0	12.5	0.0	0.0	0.0	37.5	50.0
1	16.6	41.6	25.0	8.3	0.0	4.1	8.3	16.6	62.5
2	19.2	26.9	50.0	0.0	0.0	0.0	23.1	23.1	50.0
3	8.0	32.0	60.0	0.0	0.0	8.0	16.0	20.0	56.0
4	3.6	25.0	60.7	10.7	3.6	14.3	17.9	17.9	50.0
5	0.0	26.3	68.4	5.3	0.0	10.5	31.6	15.8	31.6
6	0.0	20.0	68.0	12.0	4.0	16.0	20.0	28.0	32.0
7	0.0	29.4	58.8	11.8	5.9	17.6	17.6	11.8	35.3
Other	3.7	29.6	55.6	11.1	7.4	3.7	7.4	22.2	51.9

Both the belief statement (20a) and the procedural statement (20b) on the previous page are not supported by research. Researchers believed that although commercial spelling programs have weaknesses, they could be used judiciously and effectively by teachers. Overall, looking at Table 24, 57.0% of the respondents disagreed/ strongly disagreed with the belief statement. In other words, they believed that commercial spelling programs could be used. Interestingly enough, some of the respondents who taught Kindergarten (12.5%), Grade 1 (16.6%) and Grade 2 (19.2%) agreed/strongly agreed that commercial

spelling programs should not be used (which is understandable), whereas none of the respondents who taught Grade 5-7 felt this way.

Given that 71.2% of the respondents infrequently or almost never used only a commercial program with their students (see Table 24), it appears that these respondents must be using a combination of approaches or only indirect, informal instruction. Interestingly, the higher the grade level, the more likely the respondents were to use only a commercial spelling program. Perhaps as the curriculum gets more complex, the need for scope and sequence planning seems more obvious.

Conclusions.

The respondents agreed that commercial spelling programs could be used in the classroom but shouldn't be used exclusively.

Throughout this chapter, we have looked at the responses of the teachers who completed the survey on research-based practices of spelling instruction in the classroom. We can see that within the sample assessed, much confusion existed about research-supported classroom practices and those practices which were not supported by the research. Many times the respondents would indicate a belief but their indicated practice did not correspond to the belief.

In the following chapter, we will look at some conclusions and recommendations which have arisen from this study.

Chapter 5-- Conclusions About the Data and Recommendations

Conclusions about the Data

The purpose of this study was to (a) compile a list of research-supported teaching tech-niques, (b) find the degree to which a representative sample of elementary teachers teaching in Kindergarten to Grade 7 were aware of the supported and non-supported research procedures in spelling and (c) ascertain the degree to which this representative sample of teachers was utilizing or not utilizing selected research procedures in the teaching of spelling.

The research and investigations into the teaching of spelling from the 1900's to the present was summarized. From this research, thirty belief statements and thirty procedural state-ments were synthesized. These statements were compiled into a survey. The data was gathered utilizing an attitudinal questionnaire using a Likert scale. The survey instrument was divided into three major sections; (a) Part I - general information, (b) Part II - thirty supported and non-supported research statements and (c) Part III - thirty supported and non-supported research procedural statements.

The Study.

The research was conducted in a small suburban school district south of Vancouver, Brit-ish Columbia. At the time of this survey, this school district served 19,342 students and employed 958 teachers. There were 25 elementary schools and 7 high schools. The survey was restricted to those teachers teaching Kindergarten to Grade Seven, plus the Learning Assistants. Of those teachers sharing a class assignment, only one of the teach-ers completed the survey. Of the twenty-seven elementary schools, two schools opted not to participate in the survey, leaving 298 possible respondents. Of the 298 question-naires sent to the elementary teachers, 199 or 67 per cent were completed and returned.

Room for comments by the respondents was included at the end of the survey. Over thirty of the respondents took the time to comment on the survey. These comments revealed the extent of the confusion which existed among these respondents concerning the teaching of spelling. Some of the respondents seemed to have a good knowledge of appropriate, research-supported techniques for the teaching of spelling, while others did not. As a backdrop to a summary of the conclusions, some excerpts from the comments are included.

"With the Year 2000 [a provincial government-driven curriculum emphasis], I stopped teaching formal spelling. For two years I watched spelling during written assignments weaken. I now have returned to a formal spelling programme based on both phonics and frequently-used words."

"Words selected for a spelling unit should be words that are needed and meaningful for the child. Spelling should be ongoing and incorporated into each subject."

"I teach 'phonics' and use children's writing as a focus, on which to base my spelling program. I believe spelling must be taught directly. The spelling words must be meaningful and used in daily writing by students."

"Because the teaching techniques I use (which are most effective with special needs students) do not always permit more creative, open-ended learning, many of my students learn best using rote memorization."

"I teach French Immersion, so with two languages to teach, the time factor necessitates a more rigid or directed approach to spelling than I used when teaching in the English program."

"Spelling and its instruction have received a 'bad rap' in recent years, along with hand-

writing practice. Both are basic instruments of personal communication and as such should receive more attention."

"I feel that the trendy attitude is to down play spelling competency.....How do we expect a child whose 'inventive' spellings have been written and accepted hundreds of times, to relearn the 'standard' spelling?"

"One of our excellent Primary teachers says, 'start teaching standard spellings by Grade 2--in a serious fashion'. We're *not* going to trample on their creativity!"

"This was a detailed questionnaire. It did help me look at my own Spelling practices, which is good. I think there's no one way to learn spelling; in the same way, we all learn differently."

"Although the questions being asked are good and we need to reflect on what we do in our spelling programs, whether formal or informal, I don't think the exclusive use of the scale to respond to really lets you know what is happening in a classroom."

"Spelling is very difficult to 'teach'. I am not a 'naturally' good speller--time has helped greatly--but as a child I could read well above expectation of my grade level, etc. and had a large vocabulary. I've always been able to pronounce it, I just couldn't spell it."

Some of my responses are directly related to the fact that I teach English to French Immersion students. Therefore, the time allotment is smaller and I do less with spelling."

"..some of these items are not pertinent to a grade one Spelling/Language Arts program."

"I feel that I know very little about spelling; how children learn to spell, how best to teach it, etc. I have my students study words for spelling tests that they have misspelled in their

writing--they are each on an individualized list."

"I feel very strongly that while commercialized spelling programmes fall short of many goals, they are also very useful and should be incorporated as part of any writing curriculum."

"I tend towards word lists, i.e. the 3000 words that students in Grade 1 to Grade 6 should be able to spell to demonstrate minimal competency."

These comments give an indication that the teaching of spelling was clearly influenced by the grade level at which the respondents taught and also the type of students which the teacher taught. In addition, these comments indicated that there was a range of methods being used to teach spelling. They also indicated that there was some considerable confusion and frustration attached to the teaching of spelling.

The 'Who' of Spelling Instruction

The survey corroborates the confusion evident in the comments written by the respondents. The respondents understood that children progressed through a sequential and predictable sequence of developmental stages and their classroom practice reflected this, especially with the 'Other' respondents. However, less than half of the respondents agreed with the belief and procedural statements dealing with the nature of these developmental stages, indicating a particular lack of understanding of the nature of the developmental stages which children undergo. Also, little generalization of knowledge gained about the reading and writing developmental stages was in evidence.

The 'What' of Spelling Instruction

When we look at what the research and literature indicated should be included in the

spelling curriculum, we find that the inclusion of visual strategies, multi-sensory input, phonics, spelling rules, lists of words, proofreading, handwriting, pronunciation, spelling games, the meanings of words, the use of the dictionary and the judicious use of commercial spelling programs were all recommended as useful components to classroom spelling programs. The respondents indicated a less than clear understanding that competent spellers tend to use visualization strategies and poor spellers tend to use letter-sound relationships and rote memorization. The supported procedural activities of the respondents clearly indicated this lack of understanding. Thus, it seemed that many poorer spellers in this district might not be taught more useful strategies for learning new words. The multi-sensory belief statement was strongly supported by the respondents, as this is perhaps a popular belief for providing individualized instruction. However, the corresponding spelling strategy seeminglywas not taught.

In the past few years, phonics seems to have become a less than acceptable word (and concept) in teaching and this was reflected in the responses to the belief statements. However, when we looked at the indicated classroom procedures, we find that many of the primary teachers did in fact provide phonics training, even though they indicated that they did not believe that phonics(i.e. letter-sound relationships, was the major skill used in spelling). In the upper intermediate grades, lack of specific instruction in spelling was evident but then this was frequently a characteristic of intermediate grade teaching as opposed to primary teaching.

When looking at the question of teachers using spelling rules, we find that the respondents believed that teaching spelling rules was important. Looking at the indicated classroom practices, we find that the respondents indicated that they taught *strategies* rather than frequently-used spelling rules. Almost all of the respondents indicated that they taught strategies. However, as previously noted, they were not teaching visual strategies, nor were they teaching multi-sensory approaches to learning new words. What strategies would they have been teaching though is not apparent.

When we look at the issue of children studying spelling words grouped according to similarities, we find the contemporary 'whole language' philosophy influencing the situation considerably. Although respondents agreed that spelling lists should have words with similar phonemic or graphemic patterns grouped together, they ignored this belief statement and stated that they usually used spelling words derived from other curricular areas, instead of words grouped according to patterns. The whole language influence is most noticeable in that almost all of the respondents strongly indicated that they typically used only words derived from different curricular areas. Although, patterns and rhymes have been traditionally used in classroom spelling programs as memory aids and are supported as such by the research, many teachers indicated that they favoured a 'whole language' approach when teaching spelling.

Another major influence in education in the past years has been 'the writing process' often referred to as "The W.P.". The respondents tended to agree that proofreading, an integral part of the 'The W.P. ' was a key step in the spelling process and they also provided instruction in proofreading. However, even here we find some disagreement as less than half of the Grade 7 teachers believed that proofreading was a key step in the spelling process.

Another skill which has seemed to have lost favour in the past few years has been handwriting instruction. At first glance it seemed that handwriting elicited only lukewarm attention from teachers as only a little over half of the respondents either believed that handwriting influenced spelling or provided handwriting instruction. However, when we look at individual grade responses, we find a split between primary teachers and intermediate teachers. Primary teachers and Grade 7 teachers provided very little handwriting instruction, whereas the other teachers did provide handwriting instruction. Perhaps the word 'handwriting' was not found applicable to the primary grades.

When we look at pronunciation and articulation as components in spelling pedagogy, we find one of the few times that the respondents' belief statements matched their practices. The respondents overwhelmingly agreed that faulty pronunciation or careless articulation reduced the number of oral cues children had to aid them in spelling and they also over- whelmingly indicated that they tried to make sure that children pronounced and articulated their spelling words carefully. A little less than half of the Grade 7 teachers indicated that they made sure that children pronounced and articulated their spelling words carefully.

The respondents agreed that spelling games could be very motivational but less than half indicated that they actually supplemented their spelling program with spelling games. Those respondents who taught Kindergarten, Grade 6 or Grade 7 were least likely to supple- ment their spelling programs with spelling games. These findings were mirrored in the other categories pertaining to motivation in that the teachers agreed that motivation was important but were unsure of what constituted motivational practices.

Children should know the meanings of the words they are being asked to learn to spell and thus the spelling program becomes partly a vocabulary program as well. The respon- dents agreed with this belief statement but less than half actually ensured that they used words for which children already knew the meaning. This was especially evident in the responses of the Grade 7 teachers.

The respondents strongly disagreed that the use of the dictionary during spelling instruc- tion should be specifically directed toward the correction of spelling words. The teachers who taught 'Other', Kindergarten and Grade 1 did not encourage the use of the dictionary for proofreading written work, which was understandable. Those respondents who taught Grade 4,6 or 7 were most likely to encourage the use of the dictionary for proofreading written work, which corresponded to their responses to the proofreading questions.

A little over half of the respondents indicated that a commercial spelling program should

be used in the classroom. Those respondents who taught Grade 1 strongly disagreed with this. When asked if they used only a commercial spelling program with their students, many of the respondents indicated they did not. However, those respondents who taught Grade 5 or Grade 7 indicated that they did.

The majority of the respondents were in agreement with eleven of the sixteen belief statements dealing with the "what" of teaching spelling. Those belief statements with which the respondents did not agree were in the areas of visual strategies, phonics, words from curricular areas, and use of the dictionary. In addition, the majority of the respondents were in agreement with only nine of the sixteen research-supported procedural statements dealing with the "what" of teaching spelling. Those procedural statements with which the respondents did not agree were in the areas of visual strategies, multi-sensory strategies, spelling rules, words from curricular areas, spelling games, meanings of words and use of the dictionary.

It seems then that many children are not receiving instruction on strategies to use when attempting to spell or attempting to remember the spelling of a word. In many ways the implication is that rote memorization is still the accepted method of learning to spell a word.

The "How" of Spelling Instruction

When we look at how the research and literature indicated spelling should be taught, we find that a strong Reading/Writing connection, motivation, formal instruction, inductive teaching strategies, active participation, spelling lists, the pretest-study-test method, self-correction, a limited daily amount of time and not writing incorrect words several times are the methodologies supported by this sample of teachers.

Again, we see a strong 'whole language' influence in the responses to the belief state-

ment dealing with the connection between a broad reading, writing and speaking vocabu-lary and general spelling ability. Most of the respondents, with the exception of half of the Kindergarten teachers, agreed with this belief statement and the overwhelming majority of the respondents indicated that they provided such an environment for their students.

The overwhelming majority of the respondents agreed that motivation was a major factor in a child's learning to spell but they seemed to demonstrate a lack of understanding of intrinsic versus extrinsic motivation. At every grade level except Kindergarten, the re-sponses to the procedural statement revealed confusion about this procedure. This con-fusion, or lack of a clear understanding, of motivational procedures is also found in the responses to the statements on inductive versus deductive teaching strategies.

The presence of a formal spelling program in the classroom was seen by the majority of the respondents as being sound instructional practice. As well, except for the Kindergar-ten teachers, the majority indicated that they practised this. However, the respondents did not agree that the best way to teach the basic core of high-frequency words was through direct instruction. Kindergarten and Grade 5 teachers strongly disagreed, as did the "Other" respondents. The surprising finding was the indication that many of the respondents provided only indirect, informal instruction of spelling. This contradicted the responses that the majority taught formal spelling lessons.

When we look at the responses to the inductive teaching strategy belief statement, we find the majority of the respondents agreed with this belief statement. The majority also indi-cated that they used this intrinsically motivating strategy in the classroom. Inductive teaching requires the active participation of the student. While the respondents did not agree with the belief statement that learning to spell required active participation, they tried to provide activities which required active participation by the students. This seems to be a contra-diction in that the respondents did seem to believe in those teaching strategies which required the students' active participation but did not understand the rationale for doing

so.

Research suggests that spelling words presented in lists was the most effective way in which to learn them. However, the respondents strongly disagreed with this belief statement, yet over half of them indicated that they presented the spelling words in lists. It should be remembered that a vast majority of the respondents also indicated that they only provided informal, indirect spelling instruction, which implied that there were no spelling words in lists. The Kindergarten teachers and the Grade 7 were least likely to provide spelling words in lists.

A little over half of the respondents felt that the pretest-study-test method was superior to the study-test method. However, less than half of them practised this strategy in their classrooms. The Grade One teachers were especially adamant in not following this procedure. There was obviously confusion surrounding this method.

Although researchers felt that the immediate self-correction of spelling words was very effective in helping children learn to spell, a little less than half of the respondents agreed and even fewer practised this procedure in the classroom. Not surprisingly, "Other", Kindergarten and Grade 1 teachers did not have the students self-correct their own spelling words. However, many of the Grade 7 teachers also indicated that they did not practise this.

Researchers found that many times lengthy Spelling classes included skills which could be taught in other Language Arts classes and thus 60 - 75 minutes per week was sufficient instructional time for spelling. A little less than half of the respondents agreed with this and yet a little more than half practised this. Again, Grade 7 teachers were least likely to follow this practice and Grade 3 teachers were most likely to do so. Perhaps, a look at what constitutes practice and instruction in Spelling would be in order.

According to the research on spelling, writing misspelled words out several times is not a very effective way for students to learn to spell, nor is it motivating for students. The responses again revealed some confusion about this procedure. Most teachers indicated that they did not believe it was an effective procedure but a little less than half indicated that they did have the children write misspelled words out several times. Again, confusion about what constitutes a motivating activity is evident.

With seven of the twelve "how" belief statements, more than half of the respondents indicated that they were in agreement. The belief statements with which they did not agree were in the area of lists of words, self-correction, time allotted to spelling instruction and correction of misspelled words.

More than half of the respondents indicated that they agreed with seven of the twelve "how" procedural statements. The procedural areas to which the sample responded in ways counter to the research were motivation, formal instruction, pretest-study-test procedure, self-correction and correction of misspelled words. There even seemed to be confusion as to what constituted motivational activities and also as to what constituted active participation by the students.

Summary

> "As teachers, we seem to forget that we already know something, as soon as it's been renamed. When it's renamed, we think we need to learn it all over again."

> Dr. Elliot Eisner

> 1995 Conference 'Assessing for Success', Delta, B.C.

This research paper began as a reaction to the statements such as those by E. Horn and

Fitzgerald that research and investigation in spelling existed but was not readily available to teachers and/or was not being applied correctly, properly or uniformly.

From the results of this survey, one would reluctantly have to agree with these assertions. The respondents indicated an understanding of the existence of spelling development but not of the nature of spelling development. They indicated an understanding of the content of a spelling program but did not seem to have the classroom practices to support their beliefs. They indicated a marginal understanding of the methodology of spelling instruction and indicated a confused approach.

There also appeared to be confusion about what the contents of a spelling program should be. For the most part, the respondents agreed with the research but did not translate this knowledge into appropriate classroom practice. Spelling strategies, motivational activities and what constitutes instruction relevant to spelling were the areas which seemed to confuse the respondents the most.

The respondents also seemed to be confused about how to teach spelling. Seven of twelve belief statements and seven of twelve procedural statements were agreed to by the respondents. Formal instruction, pretest-study-test procedure, self-correction, correction of misspelled words and again motivational activities were the contentious issues.

In conclusion, this researcher must state that if the information gathered from this sample can be generalized to larger populations there seems to be considerable confusion surrounding the instruction of spelling. The 'whole language' movement and the 'writing process' movement seem to have had a major impact on the teaching of spelling. However, along with this impact has come what seems to be a self-doubt among teachers of what they know to be true in their classrooms -- what experience has taught them is true. This self-effacement, this lack of confidence in their abilities, may be partly due to the confusion which seems to surround the practice of teaching spelling today.

Recommendations Arising from this Study

1) Another survey should be conducted using the questions from this survey but altering some of the questions which may have been 'double-barreled' or vague.

2) A survey should be conducted to ascertain the exact procedural practices in the classroom, using perhaps an interview format with the sample.

3) Further research should be conducted to look into teacher interaction with pupils during spelling instruction.

4) Further research should be conducted to look into the effects of teacher behaviour on students' spelling achievement.

5) A procedure be implemented by this school district in which research-supported practices in spelling are passed on to the classroom teacher in a short, easily-assimilated format.

6) There is sufficient data within this study to use as the basis for inservice professional development in spelling instruction over all grade levels within the elementary school system.

References

Abbott, E. (1909). On the Analysis of the Memory Consciousness in Orthography. University of Illinois Psychological Monograph, 11.

Alemar, C., et al. (1990). Comparison of Auditory/Visual and Visual/Motor Practice on Spelling Accuracy of Learning Disabled Children. Reading Improvement, 27 (4), 261 - 268.

Allen, D. & Ager, J. (1965). A Factor Analytic Study of the Ability to Spell. Educational and Psychological Measurement, 25 (Spring), 153 - 161.

Allen, T.R., Jr. (1979). Lack of Communications: The Most Common Deficiency. Balance Sheet, 61 (2), 55 - 56.

Allred, R.A. (1993). Integrating Proven Spelling Content and Methods with Emerging Literacy Programs. Reading Psychology, 14 (1), 15 - 31.

Allred, R. A. (1984). Spelling Trends, Content, and Methods. What Research Says to the Teacher. West Haven, CT: National Education Association.

Anderson, K. F. (1991). Using a Spelling Survey to Assess Students' Strategies and Errors. In D. Booth (Ed.), Spelling Links (pp. 117 - 127). Markham, Ont.: Pembroke Publishers, Ltd.

Anderson, K.F. (1990). Teaching Spelling Developmentally. Orbit, 21 (4), 19 - 20.

Anderson, K. F. (1985). The Development of Spelling Ability and Linguistic Strategies. The Reading Teacher, 39 (2), 140 - 147.

Angeletti, S. & Peterson, R. (1993). Developing Real-World Spelling Skills. Learning, 21 (7), 34 - 36.

Antonelli, J. (1991). Decoding Abilities of Elementary Students Receiving Rule-Based Instruction and Whole Language Instruction. Unpublished master's thesis, Kean College.

Archer, C.P. (1930). Transfer of Training in Spelling. Research Monograph No. 5. University of Iowa: Iowa City .

Baldwin, R. F. (1976). The effect of teacher in service training and knowledge of research on spelling instruction and achievement of elementary school children. Unpublished doctoral dissertation. University of Iowa: Iowa City.

Ball, E. W. & Blachman, B.A. (1991). Does Phoneme Awareness Training in Kindergarten Make a Difference in Early Word Recognition and Developmental Spelling? Reading Research Quarterly, 26 (1), 49 - 65.

Barone, D. (1992). The Role of Spelling Instruction in Process-Centered Classrooms. Reading Psychology: An International Quarterly, 13, 1 - 17.

Bartch, J. (1992). An Alternative to Spelling: An Integrated Approach. Language Arts, 69 (6), 404 - 408.

Bean, W. & Bouffler, C. (1987). Spell by Writing. NSW, Australia: Primary English Teaching Association.

Bebout, L. (1980). Selective Dictation. English Language Teaching Journal, 34 (3), 215 - 217.

Beck, I.L., McKeown, M.G. & Omanson, R.C. (1987). The Effects and Uses of Diverse Vocabulary Instructional Techniques. In M.G. McKeown & M.E. Curtis (Eds.), The Nature of Vocabulary Acquisition (pp. 55 - 81). Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.

Beck, I.L., Perfetti, C.A. & McKeown, M.G. (1982). The Effects of Long-term Vocabulary Instruction on Lexical Access and Reading Comprehension. Journal of Educational Psychology, 74, 506 - 521.

Beers, C.S. (1981). The Relationship of Cognitive Development to Spelling and Reading Abilities. In E. H. Henderson & J. W. Beers, (Eds.), Developmental and Cognitive Aspect of Learning to Spell (pp. 74 - 84). Newark, Del.: International Reading Association.

Beers, C. S. & Beers, J. W. S. (1991) In D. Booth (Ed.), Spelling Links (pp. 25 - 36). Markham, Ont.: Pembroke Publishers, Ltd.

Beers, J. W., Beers, C. S. & Grant, K. (1977). The Logic Behind Children's Spelling. Elementary School Journal, 77, 238 - 242.

Bennett, N. (1976). Teaching Styles and Pupil Progress. Cambridge, Mass.: Harvard University.

Beseler, D.W. (1953). An Experiment in Spelling Using the Corrected Test Method. Un-published master's thesis, Central Washington State College, Ellensburg.

Blanchard, Sr. M. G. (1944). An Experimental Comparison of the Test-Study and the Study-Test Methods of Teaching Spelling in the Eighth Grade. Unpublished master's thesis, Fordham University, New York.

Block, K, K., & Peskowitz, N. B. (1990). Metacognition in Spelling: Using Writing and Reading to Self-Check Spellings. The Elementary School Journal, 91 (2), 151 - 164.

Block, J. R. (1972). But Will They Ever Spel Korectly? , Educational Review, 25, 171 - 178.

Bloodgood, J. (1991) A New Approach to Spelling in Language Arts Programs. The Elementary School Journal, 92 (3), 203 - 211.

Bloomer, R. H. (1959). Stimulus properties of words: Variables related to spelling difficulty. Unpublished doctoral dissertation, University of Southern California.

Bohen, D. (1975 - 1980). Stem Analysis of Standardized Test Results For Grades 4,6,8,11. Fairfax ,Va.: Fairfax County Public Schools.

Bohen, D. (1975). Analysis of Words Misspelled in Academic Writing Samples. Fairfax, Va.: Fairfax County Public Schools.

Booth, D. (Ed.). (1991). Spelling Links. Markham, Ont.: Pembroke Publishers Ltd.

Braun, C. & Froese, V. (1977). An Experience-based Approach to Language and Reading. Baltimore: University Park Press.

Breed, F.S. (1925). What words should children be taught to spell? I. The concept of a common list. II. Vocabularies of various types. III. Limitations of the adult standard of selection. Elementary School Journal, 26, 118 - 131, 202 - 214, 292 - 306.

Buchanan, E. (1989). Spelling for Whole Language Classrooms. Winnipeg: Whole Language Consultants Ltd.

Cahen, L. S., Craun, M. J. & Johnson,S. K. (1971). Spelling Difficulty -- A Survey of the Research. Review of Educational Research, 41(4), 281 - 301.

Chall, J. (1967). Learning to Read: The Great Debate. New York: McGraw-Hill.

Columba, Sr. M. (1926). A Study of Interests and Their Relations to Other Factors of Achievement in Elementary School Subjects. Catholic University: Washington, D.C.

Cronnell, B. (1979). Black English and Spelling. Research in the Teaching of English, 13 (1), 81 - 90.

Cronnell, B. (1978) Phonic for Reading Versus Phonics for Spelling. Reading Teacher, 32 (3), pp. 337 - 340.

Crosland, H. R. & Johnson, G. (1928). The range of apprehension as affected by inter-letter hair-spacing and by the characteristics of individual letters. Journal of Applied Psychology, 12, 82 - 124.

Cunningham, A. E & Stanovich, K. E. (1990). Early Spelling Acquisition: Writing Beats the Computer. Journal of Educational Psychology, 82 (1), 159 - 162.

Cushenbery, Donald C. (1986). Directing An Effective Language Arts Program for Your Students. Springfield: Charles C. Thomas.

Dallman, M. (1966). Teaching the Language Arts in theElementary School (2nd ed.). Dubuque: Wm. C. Brown Company Pub.

Darch, C. & Simpson, R. G. (1990). Effectiveness of Visual Imagery Versus Rule-Based Strategies in Teaching Spelling to Learning Disabled Students. Research in Rural Education, 7 (1), 61 - 70.

DeHaven, E. P. (1983). Teaching and Learning the Language Arts. (2nd Ed.) Boston: Little, Brown and Company.

Diserens, C.M. & Vaughn, J. (1931). The Experimental Psychology of Motivation. Psychological Bulletin, 28.

Dobie, A. B. (1989, March). Strategies for Teaching Spellling. Paper presented at Annual Meeting of the Conference on College Composition and Communication, San Diego, CA.

Dolch, E. W. (1951). Tested Word Knowledge vs. Frequency Counts. Journal of Educational Research, 44, 457 - 470.

Dunwell, S. (1972). Report on WRITE - a Computer Assisted Instruction Course in English Usage. Poughkeepsie, N.Y.: Shared Education Computer Association, Inc.

Early, G. H., et al. (1976). Cursive Handwriting, Reading and Spelling Achievement. Academic Therapy, 12 (1), 67 - 74.

Ediger, M. (1975, Fall). Spelling in the Language Arts Curriculum. Reading Improvement, 2 (3), 145 - 147.

Ellis, A., Standal, T., Pennau, J. & Rummel, M.K. (1989). Elementary Language Arts Instruction. New Jersey: Prentice Hall.

Fehring, H. (1986). The Teaching of Spelling in Perspective. In R. Jenkins, (Ed.), Spelling is For Ever. (pp. 21 - 34) Carlton, Australia: Australian Reading Association.

Fitzgerald, J.A. (1953). The Teaching of Spelling. Elementary English, 30, 124 - 127.

Fitzgerald, J.A. (1952). Spelling words difficult for children in grades II - VI. Elementary School Journal, 53, 221 - 228.

Fitzgerald, J.A. (1951). The Teaching of Spelling. Milwaukee: Bruce Publishing Co.

Fitzgerald, J.A. (1932). Words misspelled most frequently by children of the fourth, fififth, and sixth grade levels in life outside the school. Journal of Educational Research, 26, 213 - 218.

Fitzsimmons, R.J. & Loomer, B. M. (1978). Spelling: Learning and Instruction. Iowa City: Iowa State Department of Public Instruction.

Flesch, R. (1955). Why Johnny Can't Read. New York: Harper.

Foorman, B. R. et al. (1991). How Letter-Sound Instruction Mediates Progress in First Grade Reading and Spelling. Journal of Educational Psychology, 83 (4), 456 - 469.

Foran, T.G. (1934). The Psychology and Teaching of Spelling. Washington: Catholic Education Press.

Forlano, G. (1936). School Learning With Various Methods of Practice and Rewards. New York: Teachers College, Columbia University.

Fowler, E. D. (1989, April). Raising Spelling Scores Through Peer Tutoring and Cooperative Groups. Paper presented at the Annual Spring Conference of the National Council of Teachers of English, Charleston, S.C.

Freppon, P.A., & Dahl, K. L. (1991). Learning About Phonics in a Whole Language Classroom. Language Arts, 68, 190 - 197.

Fries, G. C. (1963). Linguistics and Reading. New York: Holt, Rinehart and Winston.

Frith, U. (1980). Unexpected Spelling Problems. In U. Frith (Ed.), Cognitive Processes in Spelling (pp. 495 - 515). London: Academic Press.

Funk, H. D. (1972). Improving the Spelling Program. Peabody Journal of Education, 49 (4), 285 - 289.

Furness, E. L.(1956). Mispronunciation, mistakes, and method in spelling. Elementary English, 33, 508 - 511.

Gentry, R. J. (1991). Developmental Aspects of Learning to Spell. In D. Booth (Ed.), Spelling Links. (pp. 37 - 45). Markham, Ont.: Pembroke Publishers, Ltd.

Gentry, R. J. (1987). Spel....is a Four-Letter Word. Richmond Hill, Ont.: Scholastic-TAB Publications Ltd.

Gentry, R. J. & Gillet, J. W. (1993). Teaching Kids to Spell. Portsmouth, NH: Heinemann Educational Books, Inc.

Gentry, R. J. & Henderson, E. H. (1978). Three Steps to Teaching Beginning Readers to Spell. Reading Teacher, 31, 632 - 37.

Gerritz, K.E. (1975). First Graders' Spelling of Vowels: An exploratory study. Unpublished doctoral dissertation, Harvard University, Boston, Mass.

Gibson, E.J., Pick, A., Osser, H. & Hammond, M. (1962). The Role of Grapheme-Phoneme Correspondence in the Perception of Words. American Journal of Psychology, 75, 554 - 570.

Gill, J. T., Jr. (1992). Development of Word Knowledge As It Relates to Reading, Spelling, and Instruction. Language Arts, 69 (3), 444 - 453.

Gill, J. T., Jr. (1989). The Relationship Between Word Recognition and Spelling in the Primary Grades. Reading Psychology: An International Quarterly, 10, 1989.

Golick, M. (1974). Phonological Development: Does Misperception Play a Role in Children's Misarticulations? Montreal Working Papers in Linguistics, Vol. 1. Montreal: McGill University.

Graham, S. (1983). Effective Spelling Instruction. The Elementary School Journal, 83 (5), 560 - 567.

Griffith, P. L. et al. (1992). The Effect of Phonemic Awareness on the Literacy Development of First Grade Children in a Traditional or a Whole Language Classroom. Journal of Research in Childhood Education, 6 (2), 85 - 92.

Griffith, P. L. (1991). Phonemic Awareness Helps First Graders Invent Spellings and Third Graders Remember Correct Spellings. Journal of Reading Behavior, 23 (2), 215 - 233.

Griffifith, P. L. (1989, April). An Analysis of the Spellings of Young Children with Varying Levels of Phonemic Awareness. Paper presented at the Annual Meeting of the Eastern Educational Research Association. Washington, D.C.

Groff, P. (1986). The Implications of Developmental Spelling Research: A Dissenting View. The Elementary School Journal, 86 (3), 317 - 323.

Groff, P. (1979). Phonics for Spelling? The Elementary School Journal, 79 (5), 269 - 275.

Groff, P. (1979). Speaking and Spelling. Language Arts, 56 (1), 26 - 33.

Groff, P. (1978). Children's Spelling of Features of Black English. Research in the Teaching of English, 12 (1), 21 - 28.

Grottenthaler, J. (1970). A Comparison of the Effectiveness of Three Programs of Elementary School Spelling. Dissertation Abstracts International, 31, 2004-A.

Hahn, W. P. (1960). Comparative Efficiency of the Teaching of Spelling by the Column and Contextual Methods. Unpublished doctoral dissertation, University of Pittsburgh, Pennsylvania.

Hall, R. A. (1961). Sound and Spelling in English. Philadelphia: Chilton.

Hanna, P. R. and Moore, J.T. (1953). Spelling - from Spoken Word to Written Symbol. Elementary School Journal, 53 (1), 329 - 337.

Hanna,P., Hanna, B., Hodges, R., and Rudorf, E. (1966). Phoneme-Grapheme Corre spondences as Cues to Spelling Improvement. California: Standford University, School of Education.

Henderson, E.H., & Templeton, S. (1991). A Developmental Perspective of Formal Spelling Instruction Through Alphabet, Pattern, and Meaning. In D. Booth (Ed.), Spelling LInks (pp. 46 - 64). Markham, Ont.: Pembroke Publishers, Ltd.

Henderson, E. H. & Beers, J. W. (Eds.). (1981). Developmental and Cognitive Aspects of Learning to Spell. Newark, N.J.: International Reading Association.

Hibler, G. H. (1957). The Test-Study Versus the Study-Test Method of Teaching Spelling in Grade Two: Study I. Unpublished master's thesis, University of Texas.

Hillerich, R. L. (1982). Spelling: What Can Be Diagnosed? The Elementary School Journal, 83 (2), 138 - 147.

Hillerich, R.L. (1982). That's Teaching Spelling? Educational Leadership, 39, 615 - 617.

Hillerich, R. L. (1977). Let's Teach Spelling -- Not Phonetic Misspelling. Language Arts, 54 (3), 301 - 307.

Hockett, C. F. (1965, November). Relationships between written and spoken English. Project Literacy Reports, No. 5. Washington, D.C.

Hodges, R. E. (1991). Smart Spelling. Instructor, 100 (7), 69 - 70.

Hodges, R. E. (1981). Learning to Spell. ERIC Clearinghouse on Reading and Com- munication Skills, Urbana, Ill.: National Council of Teachers of English.

Hodges, R. E. & Rudorf, E. H. (1965). Searching Linguistics for Cues for the Teaching of Spelling. Urbana, Ill.: National Council of Teachers of English.

Hollingsworth, P.M. (1965). Spelling Lists --- Outdated? Elementary English, 42, 24 - 28.

Horn, E. (1967, November). Teaching Spelling: What Research Says to the Teacher. Department of Classroom Teachers, American Educational Research Association of the National Education Association, Washington, D.C.

Horn, E. (1963). Teaching Spelling: What Research Says to the Teacher. Department of Classroom Teachers, American Educational Research Association. Washington,D.C.

Horn, E. (1957). Phonetics and Spelling. Elementary School Journal, 57, 424 - 432.

Horn, E. (1954). Phonics and Spelling. Journal of Education, 136, 233 - 235, 246.

Horn, E. (1939). The Validity and Reliability of Adult Vocabulary Lists. The Elementary English Review, 16, 124 - 132.

Horn, E. (1926). A Basic Vocabulary of 10,000 Words Most Commonly Used in Writing. Iowa City: College of Education, University of Iowa.

Horn, E. (1924). The Curriculum for the Gifted: Some Principles and an Illustration. Twenty-Third Yearbook of National Society for the Study of Education, Part I. Bloomington, Illinios: Public School Publishing Company, 17.

Horn, E. (1919). Principles of Methods in Teaching Spelling as Derived from Scientific Investigation. Eighteenth Yearbook of National Society for the Study of Education, Part II. Bloomington, Illinois: Public School Publishing Company, 17.

Horn, T. D. (1969). Spelling. Encyclopedia of Educational Research. (4th ed.) London: Macmillan, 1282 - 1299.

Horn, T. (1960). Research in Spelling. Elementary English, 37(1), 174 - 177.

Horn, T. (1947). The Effect of a Syllabic Presentation of Words Upon Learning to Spell. Unpublished doctoral dissertation, University of Iowa, Iowa City.

Horn, T. (1946). The Effect of the Corrected Test on Learning to Spell. Unpublished master's thesis, University of Iowa, Iowa City.

Humphry, M.O. (1954). The Effect of a Syllabic Presentation of Words Upon Learning to Spell. Unpublished master's thesis, University of Texas, Austin.

Jackson, J. (1953). The Influence of Word Analysis upon Spelling Attainment. Journal of Educational Research, 47, 106 - 115.

Johnson, L.W. (1950). One Hundred Words Most Often Misspelled by Children in the Elementary Grades. Journal of Educational Research, 44, 154 - 155.

Jones, W. F. (1914). Concrete Investigation of the Material of English Spelling. Vermillion, S.D.: University of South Dakota.

Kamii, C., (Ed.). (1991). Early Literacy: A Constructivist Foundation for Whole Language. Washington, D.C.: National Educational Association.

Kaufman, H. S. & Biren, P. L. (1979). Cursive Writing: An Aid to Reading and Spelling. Academic Therapy, 15 (2), 209 - 219.

Kearney, C. & Drabman, R. S. (1993). The Write-Say Method for Improving Spelling Accuracy in Children with Learning Disabilities. Journal of Learning Disabilities, 26 (1), 52 - 56.

King, L.M. (1932). Learning and Applying Spelling Rules in Grades Three to Eight. New York: Teachers College Press.

Kottmeyer, W. (1952). On the relationship of word perception skills in reading and in spelling. Education, 72, 600 - 603.

Larson, I.M. (1945). Time Allotment in the Teaching of Spelling. Unpublished master's thesis, University of Iowa, Iowa City.

Lewis, B.A. & Freebairn, L. (1992). Residual Effects of Preschool Phonology Disorders in Grade School, Adolescence, and Adulthood. Journal of Speech and Hearing Research, 35 (4), 819 - 813.

Liberman, I. Y., Rubin, H., Duques, S. & Carlisle, J. (1985). Linguistic Abilities and Spelling Proficiency in Kindergarteners and Adult Poor Spellers. In M. Studdert-Kennedy, & N. O'Brien(Eds.), Status Report on Speech Research: A Report on the Status and Progress of Studies on the Nature of Speech, Instrumentation for its Investigation, and Practical Applications. (pp. 71 - 82). New Haven: Haskins Laboratories.

Lie, A. (1991). Effects of a Training Program for Stimulating Skills in Word Analysis in First Grade Children. Reading Research Quarterly, 26 (3), 234 - 250.

Louis, R. (1950). A Study of Spelling Growth in Two Different Teaching Procedures. Unpublished master's thesis, Central Washington State College, Ellenburg.

Mangieri, J.H. and Baldwin, R. S. (1979). Meaning as a Factor in Predicting Spelling Difficulty. Journal of Educational Research, 72, 285 - 287.

Master, H. (1927). A Study of Spelling Errors. Unpublished master's thesis, University of Iowa, Iowa City.

Mazzio, F. (1987). Spelling. English Language Arts Concept Paper Number 3. Salem: Oregon State Department of Education.

McCracken, R. A. & McCracken, M. J. (1991). Teach Children to Spell. In D. Booth (Ed.), Spelling Links (pp. 82 - 90). Markham, Ont.: Pembroke Publishers, Ltd.

McKee, P. (1924). Teaching and Testing Spelling by Column and Context Forms. Unpublished doctoral dissertation, University of Iowa, Iowa City: .

Mendenhall, J.E. (1930). An Analysis of Spelling Errors: A Study of Factors Associated With Word Diffificulty. New York: Teachers College Press.

Merrifield, Janice. (1991). Teaching Spelling With Literature. In D. Booth (Ed.), Spelling Links (pp. 91 - 100). Markham, Ont.: Pembroke Publishers, Ltd.

Mickler, M. J. (1986, March). A Study of Teacher Application and Knowledge of the Components of a Research-Based Model of Spelling Instruction. Paper presented at the Annual Meeting of the Mid-South Educational Research Association, Memphis, Tennessee.

Montgomery, M.A. (1957). The Test-Study Method Versus the Study-Test Method of Teaching Spelling in Grade Two: Study II. Unpublished master's thesis, University of Texas, Austin.

Morris, D. (1987). Meeting the Needs of the Poor Speller in the Elementary School: A Developmental Perspective. Illinois Schools Journal (66), 28 - 41.

Morris, D. (1986). Meeting the Needs of Poor Spellers in the Elementary School: A Developmental Perspective. Occasional Paper No. 14. Evanston, Il.: National College of Education.

Morris, D. (1981). Beginning Readers' Concept of Word. In E. H. Henderson & J. W. Beers (Eds.), Developmental and Cognitive Aspect of Learning to Spell (pp. 52 - 73). Newark, Del.: International Reading Association,

Murphy, E. & McLaughlin, T.F. (1990). The Effects of Tactile and Kinesthetic Learning in Improving Spelling Performance of a Special Education Student. Reading Improvement, 27 (3), 207 - 211.

Murphy, J. F., et al. (1990). The Effects of the Copy, Cover, Compare Approach in Increasing Spelling Accuracy with Learning Disabled Students. Contemporary Educational Psychology, 15 (4), 378 - 386.

Nelson, L. (1989). Something borrowed, Something New: Teaching Implications of Developmental Spelling Research. Reading Psychology: An International Quarterly, 10, 255 - 274.

Norton, T. & Land, B. L. (1992). A Multisensory Approach to Teaching Spelling in Remedial English. Teaching English in the Two Year College, 19 (3), 192 - 195.

Novelli, J. (1992). Spelling Strategies; Strategies for Spelling Success. Instructor, 102 (9), 40 - 42, 47.

O'Flahavan, J. F. & Blassberg, R. (1992). Toward an Embedded Model of Spelling Instruction for Emergent Literates. Language Arts, 69 (3), 409 - 417.

Parke, B. W. (1979). Quick Tricks for 'Cold' Spellers. Teacher, 96 (8), 74, 76.

Personke, C. & Yee, A. H. (1971). Comprehensive Spelling Instruction. Scranton: International Textbook.

Petty, W. (1969). The Teaching of Spelling. Bulletin of the School of Education. Bloomington: Indiana University.

Petty, W. & Green, H. (1968). Developing Language Skills in the Elementary Schools. (3rd ed.) Boston: Allyn and Bacon.

Phelps, J. & Stempel, L. (1987). Revisiting an "R" --— News and Views of Writing. Texas: Scottish Rite Hospital, Child Development Division.

Preen, J. (1991). A Whole Language Approach to Spelling. In D. Booth (Ed.), Spelling Links (pp. 65 - 81). Markham, Ont.: Pembroke Publishers, Ltd.

Recht, D. R., Caldwell, J. A. & Newby, R. F. (1991). Alternative Instructional University of Texas Strategies for Dysphonetic Spellers. Reading Improvement, 28 (4), 26 - 30.

Richards, J. C. & Gipe, J. P. (1993). Spelling Lessons for Gifted Language Arts Students. Teaching Exceptional Children, 25 (2), 12 - 15.

Richmond, A. E. (1960). Children's Spelling Needs and the Implications for Research. Journal of Experimental Education, 29, 19.

Rinsland, H.D. (1945). A Basic Vocabulary of Elementary School Children. New York: Macmillan Company.

Rodgers, D., Covell, H. & Slade, K. (1978). I Can Spell Superguide to Teaching Spelling. Canada: D.C. Heath Canada Ltd.

Routmen, R. (1993). The Uses and Abuses of Invented Spelling. Instructor, 102 (9), 36 - 39.

Rudorf, E. H. & Graham, R. T. (1970). An Investigation of the Effect of Dialect Variation upon the Learning of Phoneme-Grapheme Relationships in American English Spelling. Washington, D.C. : Office of Education, Bureau of Research.

Russell, D.H. (1937). Characteristics of Good and Poor Spellers. New York: Teachers College, Columbia University.

Sartorius, I.C. (1931). Generalizations in Spelling. New York: Teachers College, Columbia University, New York Bureau of Publications.

Schickedanz, J. A. (1990). Developmental Spelling: What's the Teacher's Role? Orbit, 21 (4), 10 - 12.

Schlagal, R. C. (1989). Constancy and Change in Spelling Development. Reading Psychology: An International Quarterly, 10, 207 - 232.

Schlagal, R. C. & Schlagal, J .H. (1992). The Integral Character of Spelling: Teaching Strategies for Multiple Purposes. Language Arts, 69 (3), 418 - 424.

Scott, R. (1991). Spelling Assessment: The Missing Link. In D. Booth (Ed.), Spelling Links (pp.128 - 138). Markham, Ont.: Pembroke Publishers, Ltd.

Scott, R. (1990). Spelling Assessment -- The Missing Link. Orbit, 21 (4), 21 - 24.

Seda, M. M. (1991). The Spelling Performance of Regular and Special Population Students and Ways to Help Them. Reading Improvement, 28 (3), 210 - 217.

Shukik, H. M. (1951). An Experimental comparison of the Test-Study and the Study-Test Methods of Teaching Spelling in Third Grade. Unpublished master's thesis, Fordham University, New York.

Silva, C. M. & Yarborough, B. H. (1990). Help for Young Writers With Spelling Difficulties. Journal of Reading, 34 (1), 48 - 53.

Simner, M. L. (1988, April). Predicting First Grade Achievement From Form Errors in Printing at the Start of Pre-Kindergarten. Paper presented at the Annual Meetiung of the National Association for School Psychologists, Chicago, Illinois.

Simon, D. P. & Simon, H. A. (1973). Alternative Uses of Phonemic Information in Spelling. Review of Educational Research, 43 (1), 115 - 137.

Sterling, C. M. (1983). Spelling Errors in Context. British Journal of Psychology, 74 (3), 353 - 364.

Strickland, R. (1951). The Language Arts in Elementary School. Boston: D. C. Heath.

Swartz, L. (1991). Learning Spelling Through Games. In D. Booth (Ed.), Spelling LInks (pp. 101 - 116). Markham, Ont.: Pembroke Publishers, Ltd.

Taylor, K.K. & Kidder, E. B. (1988). The Development of Spelling Skills From 1st Grade Through 8th Grade. Written Communication, 5 (2), 222 - 244.

Tarasoff, M. (1992). A Guide to Children's Spelling Development. Victoria, B.C.: Active Learning Institute.

Tarasoff, M. (1990). Transitions in the Teaching of Spelling. Orbit, 21 (4), 5 - 7.

Tarasoff, M. (1990). Spelling Strategies You Can Teach. Victoria, B.C.: Pixelart Graphics.

Templeton, S. (1992). Old Story, New Resolution -- Sound and Meaning in Spelling. Language Arts, 69 (3), 454 - 461.

Templeton, S. (1991). Teaching and Learning the English Spelling System: Reconceptualizing Method and Purpose. The Elementary School Journal, 92, 185 - 201.

Templeton, S. (1989). Tacit and Explicit Knowledge of Derivational Morphology: Foundations for a Unified Approach to Spelling and Vocabulary Development in the Intermediate Grades and Beyond. Reading Psychology: An International Quarterly, 10, 233 - 253.

Templeton, S. (1981). Spelling, Phonology, and the Older Student.In E. H. Henderson & J. W. Beers (Eds.), Developmental and Cognitive Aspect of Learning to Spell, (pp. 85 - 96). Newark, Del.: International Reading Association.

Thomas, Ves. (1979). Teaching Spelling: Canadian Word Lists and Instructional Techniques. Toronto: Gage Publishing.

Thompson, M. D. & Block, K. K. (1990). Practice Format, Length of Training, and Spelling Test Performance of Fifth and Sixth Graders. The Elementary School Journal, 91(1), 77 - 86.

Thorndike, E. L. (1921). The Teacher's Word Book. New York: Teachers College, Columbia University.

Tireman, L. S. (1927). TheValue of Marking Hard Spots in Spelling. Unpublished master's thesis, University of Iowa, Iowa City.

Tyson, I. M. (1953). Factors Contributing to the Effectiveness of the Corrected Test in Spelling. Unpublished doctoral dissertation, University of Iowa, Iowa City.

Varnhagen, C. K., Varnhagen, S., & Das, J.P. (1992). Analysis of Cognitive Processing and Spelling Errors of Average Ability and Reading Disabled Children. Reading Psychology, An International Quarterly, 13, 217 - 239.

Voorhees, P. J. (1985). Spelling Achievement of Average Ability Students, Grade Seven. Unpublished master's thesis, Kean College, New Jersey.

Walker, L. (1979). Newfoundland Dialect Interference in Fourth Grade Spelling. Alberta Journal of Educational Research, 25 (4), 221 - 233.

Walker, L. (1978 - 1979). Newfoundland Dialect and Learning to Read and Spell. English Quarterly, 11 (4), 37 - 48.

Weber, W. R. & Henderson, E. H. (1989). A Computer-Based Program of Word Study: Effects on Reading and Spelling. Reading Psychology: An International Quarterly, 10, 157 - 171.

Wilde, S. (1992). You Kan Red This! Spelling and Punctuation for Whole Language Classrooms, K-6. Portsmouth, NH: Heinemann Educational Books, Inc.

Wilde, S. (1990). A Proposal for a New Spelling Curriculum. The Elementary School Journal, 90, 275 - 289.

Winterowd, W. R. (1977). A Teacher's Guide to the Real Basics. Language Arts, 54 (9), 625 - 630.

Yellin, D. (1986, January 30 - February 1). Connecting Spelling Instruction to Reading and Writing. Paper presented at the Annual Meeting of the Southwest Regional Conference of the International Reading Association, San Antonio, TX.

Zutell, J. (1981). Children's Spelling Strategies and Their Cognitive Development. In E. H. Henderson and J. W. Beers (Eds.), Developmental and Cognitive Aspect of Learning to Spell (pp. 52 - 73). Newark, Del.: International Reading Association.

Zutell, J. (1975). Some psycholinguistic perspective on children's spelling. Language Arts, 55(7), 884 - 850.

Zylstra, B. J. (1989). Combined Spelling -- It Works. Academic Therapy, 24 (3), 315 - 318.

4. Please indicate at which grade level you teach: (For a split class — choose both)

a) K	d) grade 3	f) grade 6
b) grade 1	e) grade 4	g) grade 7
c) grade 2	f) grade 5	h) other _____

5. How often is spelling scheduled per week?

a) 0	c) two times weekly	e) four times weekly
b) once weekly	d) three times weekly	f) five times weekly

g) Other: _____

6. How recently have you taken inservice or university level course work on spelling instruction?

a) within the last year	b) one to two years ago
c) two to three years ago	d) three to five years ago
e) five to ten years ago	f) more than ten years ago

g) never

PART II

Directions: This survey is designed to elicit your thoughts on a number of spelling issues. Kindly indicate how you feel about each of the items in this survey. It is important that you answer each item for this instrument to be valid.

Circle the corresponding number which reflects your attitude according to the following scale: 1—Strongly Agree, 2—Agree, 3—Neither Agree/ Nor Disagree, 4—Disagree, 5—Strongly Disagree, 6—Undecided

	Strongly Agree	Agree	Neither Agree/ Nor Disagree	Disagree	Strongly Disagree	Undecided
1.Poor spellers rely heavily on letter-sound relationships and rote memorization.	1	2	3	4	5	6
2.The establishment of a broad reading, writing and speaking vocabulary correlates with general spelling ability.	1	2	3	4	5	6
3.Learning to spell involves both cognitive and linguistic processes and not rote memorization.	1	2	3	4	5	6
4.Spelling lists derived from the various curricular areas are of little value in increasing spelling ability.	1	2	3	4	5	6

	Strongly Agree	Agree	Neither Agree/ Nor Disagree	Disagree	Strongly Disagree	Undecided
5. Faulty pronunciation or careless articulation reduces the number of oral cues children have to aid them in translating spoken language into written symbols.	1	2	3	4	5	6
6. When a teacher employs visual, auditory and kinesthetic/tactile stimuli in the teaching of spelling, it will increase the likelihood that students will learn to spell accurately.	1	2	3	4	5	6
7. Using inductive teaching strategies is a very meaningful and motivating activity to children. (i.e. helping students establish spelling rules)	1	2	3	4	5	6
8. Spelling instruction should be based on lists of words grouped with auditory and visual similarities.	1	2	3	4	5	6
9. Time allotted for spelling instruction should be between 60 to 75 minutes per week.	1	2	3	4	5	6
10. Instruction in the use of the dictionary during spelling instruction should be specifically directed toward the correction of spelling errors.	1	2	3	4	5	6
11. Children progress through a sequential and predictable sequence of developmental stages as they learn to spell.	1	2	3	4	5	6
12. Motivation is a major factor in a child's learning.	1	2	3	4	5	6
13. Phonics is the major skill used in learning to spell.	1	2	3	4	5	6
14. The study-test method is superior to the pretest-study-test method when working with most spellers.	1	2	3	4	5	6

	Strongly Agree	Agree	Neither Agree/ Nor Disagree	Disagree	Strongly Disagree	Undecided
15. Spelling games can play an important motivational role in the spelling curriculum.	1	2	3	4	5	6
16. Children progressively move through each stage of development before attaining the next stage of development.	1	2	3	4	5	6
17. Although every opportunity should be taken to teach spelling during writing, a more formal spelling program must be in place.	1	2	3	4	5	6
18. The spelling of English is not predictable enough to make the application of spelling rules useful.	1	2	3	4	5	6
19. One of the single most important factors in learning to spell is the immediate self-correction of spelling mistakes by the student.	1	2	3	4	5	6
20. Writing words several times each helps insure spelling retention.	1	2	3	4	5	6
21. Visual strategies are used more than phonics strategies by competent spellers.	1	2	3	4	5	6
22. There is no field-tested substitute for direct instruction on the basic core of high-frequency words needed in child and adult writing.	1	2	3	4	5	6
23. Children need explicit instruction in some of the frequently-used spelling rules.	1	2	3	4	5	6
24. Proofreading is the key step in the spelling process, as proofreading actively involves students.	1	2	3	4	5	6

	Strongly Agree	Agree	Neither Agree/ Nor Disagree	Disagree	Strongly Disagree	Undecided
25. Because most words taught in the first six grades are those most often used by children in writing and those most familiar to children, teaching the meanings of each word is a wasteful practice.	1	2	3	4	5	6
26. Direct instruction cannot significantly effect the child's progress through the developmental stages of spelling.	1	2	3	4	5	6
27. Words initially presented in lists are more quickly learned, remembered longer and transferred more readily.	1	2	3	4	5	6
28. Slow and laborious handwriting may detract from concentration on the spelling of a word.	1	2	3	4	5	6
29. Commercial spelling programs should not be used.	1	2	3	4	5	6
30. Handwriting does not influence the spelling of a word.	1	2	3	4	5	6

PART III

Directions: Kindly indicate how you feel about each of the items below. It is important that you answer each item for this instrument to be valid.

Circle the corresponding number which reflects your teaching according to the following scale.
1. Almost Always (a spelling practice with a very high degree of regularity)
2. Frequently (a spelling practice repeated with some degree of regularity)
3. Sometimes (a spelling practice used on occasion)
4. Infrequently (spelling practice seldom used)
5. Almost Never (a spelling practice very seldom used)

	Almost Always	Frequently	Sometimes	Infrequently	Almost Never

AS AN ELEMENTARY TEACHER, I ....

	Almost Always	Frequently	Sometimes	Infrequently	Almost Never
1... teach children the spelling strategy — see, say, spell, write, check, repeat.	1	2	3	4	5
2... try to determine which stage of spelling development each child has reached.	1	2	3	4	5
3... encourage poor spellers to use a visualization strategy.	1	2	3	4	5
4... use activities which reflect a higher stage of development than the one the child is in.	1	2	3	4	5
5... provide a broad range of reading, writing and speaking activities to increase a child's general spelling ability.	1	2	3	4	5
6... encourage children to use their own strategies for learning the spelling of a word.	1	2	3	4	5
7... use inductive teaching strategies such as helping children discover useful generalizations for themselves.	1	2	3	4	5
8... provide indirect, informal instruction of spelling.	1	2	3	4	5
9.. give my students rewards such as stickers and stars to motivate them to do well in spelling.	1	2	3	4	5
10.. provide for study lists of words which have similar phonemic or graphemic patterns.	1	2	3	4	5

	Almost Always	Frequently	Sometimes	Infrequently	Almost Never
11.. try to choose activities which actively involve the student.	1	2	3	4	5
12.. provide formal instruction using high-frequency words.	1	2	3	4	5
13.. present spelling words in lists, rather than in sentence or paragraph form.	1	2	3	4	5
14.. provide phonics training for my students.	1	2	3	4	5
15.. teach spelling words and strategies during formal spelling lessons as well as incidentally during writing.	1	2	3	4	5
16.. teach frequently-used spelling rules, such as "i before e, except after c".	1	2	3	4	5
17.. use spelling words derived from other curricular areas.	1	2	3	4	5
18.. provide handwriting instruction as an aid to efficient spelling development.	1	2	3	4	5
19.. provide instruction in proofreading.	1	2	3	4	5
20.. teach strategies rather than spelling rules.	1	2	3	4	5
21.. administer a spelling pretest before the majority of pupils have had an opportunity to study the words for the week.	1	2	3	4	5
22.. provide between 60 to 75 minutes a week of spelling instruction.	1	2	3	4	5

	Almost Always	Frequently	Sometimes	Infrequently	Almost Never
23.. always have students correct their own tests.	1	2	3	4	5
24.. try to make sure that children pronounce and articulate their spelling words very carefully.	1	2	3	4	5
25.. supplement my spelling program with spelling games.	1	2	3	4	5
26.. expect children to correct misspelled words by writing them several times each.	1	2	3	4	5
27.. only use words for spelling practice for which children already know the meaning.	1	2	3	4	5
28.. encourage the use of the dictionary for proofreading written work.	1	2	3	4	5
29.. use only a commercial spelling program with my students.	1	2	3	4	5
30.. provide handwriting instruction informally only.	1	2	3	4	5

Comments: _____

_____

_____

_____

_____

_____

_____

SECTION A - Overview of the project:

1. Title and purpose of the research project:

    "Research-Based Practices in the Teaching of Spelling"

    Researchers maintain that research related to the teaching of
    spelling does not reach practitioners, for a number of reasons. This
    survey seeks to ascertain to what degree this is true for the
    elementary teachers of Delta.

2. Brief statement of project design:

    The research on spelling from 1900-1993 was reviewed
    and pertinent information was summarized. From this,
    belief statements and procedural statements were
    developed. These statements were turned into a survey
    for teachers to complete.

3. A copy of the proposal must be attached.

4. A letter of approval from your University's Screening Committee must be attached.

5. Date of Application: November 14, 1994

6. Date on which the project is intended to commence: November 28, 1994

7. Date by which the project is intended to conclude: March 31, 1994

SECTION B - School(s) involvement:

1. Grade/age level(s) of pupils to be involved: N/A

2. Numbers/divisions of pupils to be involved: N/A

3. Please indicate as clearly as possible how much time you would require to complete your procedure with each pupil, class and school.

    Surveys will be sent to elementary school teachers.
    It should take between 10-20 minutes to complete. Survey
    is a Likert-scale and does not require any training, as
    teachers have filled out many of these before.

4. What specific related reference is there in a prescribed or authorized program of studies for the need or application of such a project?

Quality spelling techniques are always being looked for by teachers.

5. Is the ~~treatment/experiment~~ survey to be conducted by the regular teacher(s)?

a) YES ☑ NO ☐

b) If no, explain who is to instruct pupils and what teacher certification the person(s) hold:

6. Explain exactly what responsibility/cooperation is requested of the teacher(s) and/or principal(s):

I only ask that teachers fill out the survey and return it to me within the week.

7. What provision is planned/required for in-service for the teacher(s) to train them to participate?

None.

8. How much of the teacher(s) <u>own</u> time is required?

10-20 minutes.

9. Specify which school(s) are requested to participate (name schools or indicate size and/or nature of pupil population required).

All elementary schools.

10. Parental consent must be obtained before students in Delta School District are involved in research activities. Please attach proposed drafts of informational letters to parents and consent forms so that they may be reviewed. If your request is approved, you will be expected to review these documents with the principals of all schools involved.

_N/A_

11. What (if any) hazards are there to the pupils' health and well-being (for example, does/should each participating pupil require a medical examination before commencing the experiment)?

N/A

12. How will confidentiality of the gathered data be maintained?

No names / No references to schools

13. What are the plans for future use of the data as part of this study or use beyond this study?

Results to go back to schools .

Results will be used to finish my thesis.

14. All records compiled during the course of the study which identify specific students must be returned to the school district. When returning such records, the researcher must state in writing that no copies of the records have been retained by the researcher or associates of the researcher. *N/A*

SECTION C - Costs

1. There are: a) no costs to Delta School District ☑

      OR   b) the following assistance from Delta School District is requested:

          i)   Supplies (itemize):

          ii)   Equipment (itemize):

          iii)   Other (itemize):