SPELLING PROCEDURES, PRACTICES AND
METHODS A REVIEW OF RELATED LITERATURE

EDITH MARGARET FUREY

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SPELLING PROCEDURES, PRACTICES AND METHODS

A REVIEW OF RELATED LITERATURE

by

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ABSTRACT

This study attempts to provide fellow-teachers with a comprehensive report of research findings in the area of spelling. There would appear to be more than enough evidence to buttress the conclusion that the spelling abilities of our pupils are not being developed as well as they might be. Given this, it is felt that simply to make available pertinent research findings (compiled necessarily from various sources) would be an essential first step toward remediation.

The spelling process involves both sensory-motor and cognitive learning processes. From the beginning, thinking is required as the pupil determines which written letters represent speech sounds. Through repetitive experiences in organizing, coding, and storing information, certain sound pattern-spelling pattern relationships are expected to become automatic. Eventually, spelling becomes virtually a _reflexive_ sensory-motor act.

In this study, spelling is viewed as a complex language art. This is not to suggest that spelling develops independently as a final stage in language development but instead is an interdependent skill which reinforces the other language arts. Teachers must recognize the multi-faceted nature of the language arts and must plan integrated spelling-writing experiences.

The crucial question is not whether a particular approach is useful but _how_ the various instructional means can be utilized most effectively in the classroom. Spelling is an individual matter, and it is only through exposure to the various spelling methods that each child can acquire effective word study methods.

iii

Table of Contents

CHAPTER 1

INTRODUCTION

The development of written language has been heralded as man's greatest invention, affecting the course of history as much as the invention of the wheel (Hodges, 1968, p. 1). In an age of increased technology, when the communication barrier between man and his fellow man is rapidly widening, the importance of written language becomes even more significant. By making communication clearer, written language provides a means for man to function more adequately in society.

An inseparable part of this written communication program is spelling. Spelling is not an end in itself, but rather a sophisticated skill in language development, increasing in the writer the quality of his written expression. For the reader, correct spelling enables him to get the full impact of the writer's message, without having to decipher individual spelling variations.

Society has placed high priority on ability to communicate effectively through writing. Indeed, educational and social competence is partially judged on one's ability to spell. These are perhaps unwarranted judgments, but they are a reality as seen in instances of the individual who, because he uses proper spelling on a job application, is often considered the more qualified job-seeker.

Learning to spell was once regarded as solely a recognition process. That is to say, spelling was understood as a mirror of speech, a process of making the correct associations between phonemes (sounds)

and graphemes (symbols). This purely phonological system however, is fraught with many inconsistencies. Discrepancies can be found in the number of letters and letter-combinations used to represent certain consonant and vowel sounds. Most letters spell many sounds and many sounds are spelled in various ways. The situation is further complicated by the existence of words containing schwa sounds and silent letters whose symbols are virtually impossible to predict. It seems that there are few sound-letter correspondences that can be taught which will guarantee the correct spelling of a sound (Hillerich, 1967, p. 127).

There has been a long tradition of abortive attempts to overcome this disparity between sound and symbol within the phonological system. In 1200 A.D., Orm proposed in his Ormulen a means of revision through developing a more consistent sound-symbol system. Dewey's "initial teaching alphabet" was also an endeavor to create more consistent spelling patterns. Other reformers attempted to spell words more ways than one, reflecting their pronunciation as seen in Chaucer's and Shakespeare's idiosyncratic spellings. However, these and other attempts at spelling reform were short-lived, since they were not economical, offered little standardization of sound-symbol and brought more confusions into the English language.

Thus, the actual process involved in learning to spell cannot be entirely described by the phonological system. The syntactic and semantic systems of spelling help solve many of the inconsistencies left by the phonological explanation of spelling.

In the syntactic system, the focus is on the probabilistic cues embedded in the sentence. Through an awareness of the form, class and

position of the sound pattern, spelling patterns become easier to predict. Seen in such a way, writing is not simply a mirror of speech, and the deviations cannot be considered irregularities, but are predictable diversities of speech sound-spelling pattern relations.

In the semantic system, the word is examined for meaning cues including prefixes, suffixes, and knowledge of root words. Proceeding from his own awareness of these structures, the writer exercises a greater control over the orthography.

Although English orthography is complex, it is comprehensible and explainable if one accepts a combination of these three systems.

A great deal of research, much of it thorough and comprehensive, in all aspects of spelling has been carried out. In more than a few instances, these findings date back to the early part of the century. Despite a tremendous amount of research in spelling, improvements would not appear to be commensurate with research efforts, as witnessed in the poor calibre of spelling found in high schools, at university levels and in places of employment. Two reasons for this disparity between research findings and actual learnings have been identified. The first is the claim that teachers are not applying what has proved to be successful (Graham and Miller, 1979, p. 2). Because of their insufficient understanding of the spelling process, they may continue to use poor textbooks and inappropriate teaching methods without complaint.

The second reason for the poor standard of spelling, according to Sherwin (1970, p. 6) and Furness (1976, p. 1); Personke and Yee (1971, p. 71), is the loss of interest in spelling-related activities in the schools. The importance of spelling in the curriculum has lessened over the decades; there has been a correspondent decrease in

spelling ability. Time required for correct spelling was believed to interfere with the thought-getting process (Medway, 1976, p. 3182) slowing down one's ability to communicate. Curriculum designers, principals and teachers point to the amount of time spent developing spelling ability with few positive results.

Today, we are faced with a disparity between what society demands and what the schools are actually teaching. Society demands competent users of the written language but schools are placing a low priority on spelling, with too many poor spellers graduating from high school and college.

The question arises as to how spelling may be placed in its proper perspective within the school curriculum and society at large. In order to answer this question, spelling procedures, practices and methods need to be reassessed, keeping available research in mind. It is with this task that this thesis is concerned.

Perhaps, implementation would be accommodated if there were to be made available to educators a comprehensive study of research in the area of spelling. This study will deal with the: 1) nature of the spelling process, 2) readiness, 3) its relation with the language arts, 4) techniques of teaching, and 5) means of evaluation, followed by correspondent remediation. It is hoped that teachers will gear their methods of teaching toward a more critical application of these findings. A brief summary of the findings will be presented in the following paragraphs.

Chapter Two deals with the actual process involved in learning to spell, which is far more complicated than most people might think. Spelling is an individualistic sensory-motor and cognitive process.

Words are heard and understood through the sensory modes of hearing and vision, while the writing of them involves complex cognitive processes as the writer recalls stored patterns, organizes new patterns or reorganizes existing patterns. Thus, each individual's processing system differs, making spelling an individual matter. The sensory-motor and cognitive nature of the spelling process will be discussed in this chapter along with definitions which attempt to describe this process.

Chapter Three discusses spelling, which commences when the child first seeks to produce a written word in order to communicate an idea or a feeling. Readiness for spelling must be developed sufficiently at each stage in the on-going learning process. Chapter Three deals with the physical, psychological and pedagogical factors constituting spelling readiness. Differences in the opinions of researchers concerning the importance of each of these variables in developing spelling readiness will also be presented.

Spelling is a sophisticated skill needed in the sequence of language development (Smith, 1972, p. 428). Its success depends upon a thorough understanding of the other language arts including listening, speaking and reading. Although their objectives and methods of instruction differ, spelling and the language arts serve to reinforce or supplement one another. As will be discussed in Chapter Four, spelling power does not develop in a vacuum or in a lock-step fashion; rather, it develops with language power as the child expresses his ideas clearly and fluently in writing (Logan, 1972, p. 319).

Success in spelling is the outcome of an efficient method of learning to spell (Furness, 1976, p. 2). The quality of teaching methods often determines the success of the individual's methods of

learning to spell. Some of the most comprehensive research in teaching
methods (or teaching approaches) has been done in the area of spelling
(Allred, 1977, p. 15). This research has examined both informal and
formal approaches of teaching and learning spelling. As emphasized in
Chapter Five, these approaches are a means of spelling achievement.
Success does not depend upon reliance on one particular method, but
upon a thorough understanding of each approach and upon the ability to
use the most suitable approach to attain the correct spelling. The
three informal approaches to spelling discussed in this chapter are:
the individualized; the discovery; and the integrated spelling-writing
approaches. Formal approaches including the use of textbooks, phonetics,
linguistics, affixation and drill are also examined. Through the
teacher's use of these informal and formal approaches to spelling, it
is hoped that the child will develop independence in correct spelling
through developing meaningful approaches to mastering the spelling of
new words. Although educators disagree as to the effectiveness of
these approaches, it is the intention of the writer to present these
conflicting views, thus exposing the teacher to the pros and cons of
the argument.

Diagnosis is important for all children, providing a means of
determining which spelling skills are not yet mastered or which physical,
psychological and pedagogical factors have not developed. Diagnosis is
presented, in Chapter Six, as both an evaluative and an instructional
tool. Informal and formal testing procedures are discussed as means
of determining spelling ability. There can be no "panacea" for
remediation of common spelling problems, for certain spelling errors
require different correctional procedures.

CHAPTER 2

THE SPELLING PROCESS

Introduction

A comprehensive, theoretical model of spelling behavior which
will incorporate all the pertinent behaviors involved in spelling is
needed. Ernest Horn (Personke and Yee, 1971, p. 25) advises that such
a model would greatly facilitate research and instruction. Indeed, the
earliest researchers were concerned with developing proper methods of
teaching spelling whereby the child could acquire a sufficient spelling
vocabulary. Today, the focus is still on methods of improving spelling
ability and expanding spelling vocabulary; however, the emphasis has
shifted somewhat to allow a greater concern for the nature of the
individual and a greater awareness of the actual process by which he
spells words.

Total spelling behavior consists of both sensory-motor and
cognitive processes. Although the sensory-motor and cognitive
processes will be discussed separately here, it must be remembered
that each process is distinct yet complementary. Let us examine further
the rationale for considering these processes as distinct and complementary.

Just as the infant receives his earliest impressions through
the sensory modes, so too, the beginning speller must rely a great deal
upon feedback from his sensory world. At this stage, information is
construed through his visual, auditory and kinesthetic impressions. The
child visualizes the sequences of letter symbols, hears the sounds

within the word and comes to get the 'feel' of the word. Through
repeated experiences, a certain number of words will become automatic
at this level, such words including high-frequency, irregular spelling
words. However, it is almost an impossible task for the child to rely
solely upon this sensory-motor process due to the extreme burden placed
on the short and long term memory in a logographic orthography. The
child will be acquiring an enormous spelling vocabulary and he cannot
be expected to remember the visual, auditory and kinesthetic impressions
of every word he encounters. Furthermore, there will be many words
which he will have the occasion to use just a few times and these words
cannot be expected to become part of the child's reflexive spelling
vocabulary. Therefore, in order for the child to attain an independent
level of spelling ability it is necessary for him to progress to the
next stage in spelling process - the cognitive stage.

Through repeated experience in noting the visual, auditory and
kinesthetic properties of a word, the child begins to identify similarities
and differences within words. A level of cognitive development is
reached at which the child becomes aware of the phonological, syntactic
and semantic levels of his language. (These levels of language growth
will be discussed further in the section on cognitive development.)
Suffice it to say that this is the 'thinking stage' of the spelling
process, an out-growth of the learning experiences in the sensory-motor
process.

Just as the sensory-motor process has been seen as automatic
to a certain degree, so too, does the cognitive process become automatic.
Through continuous experiences of discriminating similar phonological,
syntatic and semantic patterns the child devises his own rules or

generalizations for these patterns. However, not all the words which the child will need can be spelled automatically here - that is, without taking conscious thought. When he encounters new and inconsistent patterns within words, the child has to reflect, to subdivide, or expand an existing structure. This of course, by necessity, may require prior experiences with the sensory-motor process.

From the above discussion it can be seen that the sensory-motor and cognitive processes are greatly dependent upon each other. Moreover, even when an independent level of response is reached in each process, the interrelatedness of the processes cannot be ignored. Several authors cited in Solomon's (1965) book entitled <u>Sensory Deprivations</u> conclude that man's cognitive functions are affected by deprived sensory-motor experiences. Sensory-motor learning often has a cognitive component as will be seen in Fernald's word-learning technique in which "the words originate with the reader and have contextual and meaningful association (Hammill and Bartel, 1975, p. 101).

The educational environment must encourage in the child growth and expansion of the sensory-motor and cognitive processes, for such processes cannot be expected to occur instantaneously with little or no prior instruction. However, the extent to which each process is required in spelling is dependent upon the particular individual and his particular spelling task. For example, the word to be learned may provoke one child to rely more upon one process than upon another. It would seem that Personke and Yee (1971, p. 23) agree with this statement, since they claim that no one behavior is correct for spelling a particular word each time it is met; that the individual must be able to shift from one behavior to another while choosing the most suitable

process.

In order to arrive at a more satisfactory understanding of the spelling process, the sensory-motor and cognitive processes will be discussed separately in the following pages. It is the writer's intention to present some of the characteristics of each process and their relation to the overall process of learning to spell.

Sensory-Motor Processes

Spelling is a multi-sensory activity. Of all aspects of spelling instruction, there is most agreement on the efficacy of exposing the child to a multi-sensory approach for studying words.

Whatever the spelling method used, a multi-sensory process is involved. The student uses three types of sensory imagery in learning to spell. This imagery required in spelling may be referred to as the visual, auditory and kinesthetic process, or VAK process.

Personke and Yee (Simon, 1976, p. 294) and Johnson and Myklebust (1967, p. 239) refer to the spelling process as involving an "intersensory transfer". According to them, before the spelling of a word becomes a subconscious, automatic process, a crossing and integrating of the modalities are required to initiate the encoding process (or intake of the word to be spelled), to secure correct association of sound and symbol and recall in the decoding process or output of the finished response. In the spelling task, Chalfant (Gilespie, 1972, p. 4) advises that the response must occur by way of a modality different from the one in which the stimulus was presented, and thus what is acquired through one modality must be converted into its equivalent in another modality.

The sensory-motor process encourages individual differences and

permits each student to develop independently the type of word image which will give him the significant details of the word he is attempting to learn. The extent to which he uses his eyes, ears, hands and throat in a total learning process is an individual matter.

Opportunities must be provided for the learning of each of the types of imagery in the spelling program. Time is needed for the systematic planning of imagery learning. With this in mind, Thomas Horn (1966, p. 79) warns that often the child does not develop sufficient skills in the sensory modes which could contribute to future spelling failure.

Though Montagu, in his book Prenatal Influences, holds that the sequence of sensory development in the infant is tactile-auditory-visual, this writer prefers to speak to the sequence of visual, auditory and haptical.

a. Visual Imagery - Spelling is primarily within the visual realm, since it is a skill used in writing rather than speaking. Ashley (1970, p. 154) advises that a child can benefit more from the spelling word by seeing it written correctly than by hearing it spelled aloud. Raskin and Baker (1975, p. 51) found visual imagery superior to all other types of imagery.

As early as 1926, Gates (Hillerich, 1976, p. 70) stated that spelling ability correlates highly with word perception. Similar findings were reported by Vandermeulen (1976, p. 199) and Hunt, et al. (1963, pp. 342-350).

Learning to spell is learning to see (Toohey, 1962, p. 474), as the child comes to realize that it is the

spatial orientation sequence of letter symbols and spelling
patterns within a word that distinguishes it from another
word. In analyzing the complex pattern of a word, the
child inspects meticulously from left to right as he studies
the word form. He examines the word to find clues such as
the number of syllables, prefixes, compounds, contractions
and root words.

Visual imagery also helps reinforce or supplement
auditory and kinesthetic imagery. Increased ability to
look at a word to discriminate patterns, syllables and
whole words, facilitates the association with sound and
the reproduction through the kinesthetic senses.

b. Auditory Imagery — It is generally believed by researchers
that auditory imagery alone plays a lesser role in the
spelling process. In agreement with this, Warren (Hillerich,
1976, p. 47) found no relation between spelling achievement
and sound perception and discrimination.

So too, Allred (1977, p. 34) emphasized that differences
in auditory activity do not differentiate the good and poor
spellers. He found that poor spelling in grades five and
six was closely related to poor auditory discrimination but
that high spelling ability was not necessarily related to
superior auditory discrimination.

It seems that auditory imagery must be developed in
conjunction with the other sensory modes. Its role assumes
importance when auditory imagery is considered in relation
to the total sensory-motor process. This conclusion is
corroborated by Kuhn and Schroeder (1971, p. 868), who

compared the auditory approach with an auditory-plus-visual approach and found the latter approach to produce significantly higher achievement for both sexes in grades four and six at all ability levels.

As was pointed out in the preceding paragraphs dealing with visual imagery, so too, auditory imagery can also be used to reinforce visual and kinesthetic imagery. If, for instance, the child does not have a clear and concise visual or haptical image of a word, he can gain additional information about the word through his auditory perception of that word. However, although auditory imagery must usually be supplemented with other forms of imagery, time is still needed for its development. The child must be helped to hear the phonemes in words in initial, medial and final positions and to associate the graphemes with them. Auditory memory must be developed to the extent that the child is able to hold the sounds or syllables in his mind long enough to associate the correct graphemes with them.

Since it is impossible to discuss the encoding process without mentioning the decoding process, hearing is necessarily associated with speaking. Hearing the correct pronunciation would appear to be an important factor in learning to spell (Horn, 1957, p. 431; and Jackson, 1972, p. 97). The teacher must provide opportunities for the child to listen to the correct pronunciation of words and to pronounce the words himself. When pronouncing the whole

word, its syllables and then the whole word again, the
child comes to distinguish the temporal sequence of sounds
while developing his auditory ability. However, more than
merely to hear the sounds in words he is learning to spell,
the child must also associate those particular sounds
with their letters. Several educators believe that the
spelling of English words can be predicted on the basis of
pronunciation using oral-aural cues only, because of the
reasonable consistency between phonemes and graphemes
(Hodges and Rudorf, 1965, p. 527; Venezky (Gould, 1976,
p. 223); Cronnell, 1975, p. 68 and Rea (Logan, 1972, p. 365).
These findings were reinforced by Anderson (1972, p. 368) who
asserted that the only limit to size of spelling vocabulary
is the size of the oral-aural vocabulary.

Through his auditory modality, the child also hears the
words used in many varied contents as he is exposed to the
sounds surrounding him. Word meaning is further developed
through his hearing the words in song, verse and conversation.
Thus a better understanding of the meanings of these words
is established giving the child more flexible use of the
words.

c. <u>Haptical Imagery</u> - consists of both tactile and kinesthetic
perception. Tactile perception refers to environmental
information obtained via the fingers and skin surfaces
(Lerner, 1971, p. 124) which may provide more distinct
impressions than that provided through vision (Fieandt,
cited in Barraga, 1976, p. 42). Kinesthetic learning

involves learning through the muscles as the word in spelling, is recalled through finger, hand or arm movements.

Eye-hand coordination must be developed sufficiently for this to occur. The child is required to look at the visual representation of the word and to produce an identical copy of that word.

Personke and Yee (1971, p. 86) state that all spelling is written communication rather than auditory or visual communication. Haptical imagery helps reinforce visual and auditory imagery while making these images more accurate and permanent (Schell, 1975, p. 240; Gillingham and Stillman, 1969, p. 168). Through such means, spelling becomes more of an automatic process, thus rendering unnecessary the thinking involved.

Claims have been made that training in the haptical approach is 1) time-consuming, 2) has little transfer to contextual writing, and 3) should only be used with slow or retarded spellers (Dallman, 1971, p. 209; and Rea (Logan, 1972, p. 314)).

When, however, haptical imagery is considered in relation to the total sensory-motor process, the claims stated above, may well be unwarranted. The more comprehensive and precise information (Barraga, 1976, p. 42) which the haptical mode provides for all children warrants the greater amount of time needed to write the word. Furthermore, since the haptical mode is the mode closest to the actual spelling itself, it is the opinion of the

writer that it does indeed transfer to contextual writing. As already discussed, the repetitive practice of using the muscles in forming words, permits a certain amount of automatic learning.

Cognitive Processes

Writing serves more than a communication function. It can function to contribute to cognitive development, for spelling is an individual, cognitive process. Hillerich (Furness, 1976, p. 8) regards correct spelling as an individual responsibility with the child making the mental connection which enables him to learn to spell. Each individual has a human information processing system which makes this mental connection possible. The processing system consists of sophisticated cognitive structures acquired through the experiences of organizing, coding and storing information for later retrieval as mentioned in the introduction to this chapter. Before words are learned, they are organized and coded according to similar patterns or structural properties.

Each individual's processing system is dependent upon the memory of the speller, the nature of the words and the amount of concern over proofreading (Yee and Shores, 1973, p. 53). Therefore, the cognitive process will differ from one individual to another with the child becoming aware that the words actually belong to him and grow out of his own consciousness.

   1. _Memory of the speller_ - The extent to which the child utilizes visual and auditory memory greatly affects his spelling ability. The learner must examine isolated phonemes, patterns and note how the word is used in the

sentence or compare words similar in structure and meaning while associating their corresponding spelling patterns with them. Visual and auditory memory determine in turn the extent to which the individual codes information according to phonological, syntactic and semantic patterns. The precision with which the learner groups and stores lexical information is a predictor of spelling success.

2. Nature of the words — A reservoir of words for later retrieval when doing written work must be built up by each student. However, such a reservoir is established, not so much through the teaching of words as through concrete and abstract opportunities of dealing with these words. Concrete experiences consist of opportunities to listen to words used in varied contexts such as stories and discussion. Through such means, word knowledge and vocabulary development is expanded, thus creating a data base of word knowledge.

Word knowledge is also developed through the utilizing of word patterns at three sequential levels of the language system. The child establishes phonological, syntactic and semantic correspondences at this abstract level. In such a way, spelling becomes part of a broader curriculum which includes much vocabulary study.

a. Phonological level — This level is concerned with the surface or structural level of language, with concentration on a one-to-one sound-to-symbol relationship (Bloomfield, 1942, p. 128; and Fries, 1963, p. 155). Patterns are built from basic sounds and the child puts the patterns together

to create words. For example, he notes the - op - patterns in mop and hop; the - er - pattern as he encounters it in such words as 'her'; and the - ate - patterns as seen in fate and plate. These patterns are then combined to form words - the word in this case being "operate". Then affixes including - s -, - ing -, - ive -, may be added.

On the other hand, Manolakes (1975, p. 247) and Hodges (1968, p. 4) point out that the young child has already acquired a great deal of this phonological knowledge, having established a highly sophisticated intuitive understanding of the English orthography because of the predictable nature of the sound system. Even so, Templeton (1979, p. 793) claims that Manolakes' is a superficial concern because if we were to concentrate on this sound-symbol relationship, the reader would also have to decode from the level of sound to the level of meaning.

b. <u>Syntactic level</u> - At this level, the child becomes aware of the role each structural unit can fulfill in the English orthography. He realizes the importance of considering and noting how the word is used in the sentence. He learns that words are pronounced differently when used as different parts of speech: for instance, as noun or verb - "refuse". Thus, more efficient and informed strategies of word-awareness can be generated. He learns to handle predictable diversity of certain speech-sound spelling-pattern relations; for instance, confusing differences - 'costume/presume' (Consila, 1976, p. 187).

He notes words linked through the common root, a technique referred to by Dale and O'Rourke (Zutell, 1979, p. 79) as "word-webbing" he offers the example "sympathy/pathetic/pathology", linked through the root "path".

These unpredictable spellings are usually learned and stored as unique structures of graphemes or as small associative sets of words having the same irregular spelling.

c. _Semantic level_ – Words that mean the same tend to look the same, even though they may be pronounced differently. The meaning relationship is retained even though the sound may change. Such patterned groups at the semantic level include elevation/elevator; medicine/medicinal; history/historical. With practice, though, the student notes the basic patterns and develops a "set of expectations" for each word. A set of expectations refers to how the learner categorized each word on the basis of similar structure. Similar phonological, syntactic and semantic properties are considered. Anything that does not quite fit this set gets a rapid assessment and is assigned a new pattern (Hardin, Bernstein and Shands, 1978, p. 64).

3. _Amount of concern for proofreading_ – The amount of concern an individual has for proofreading significantly affects the development of his cognitive processes. Proofreading may be offered in the form of aids, such as charts or books, including dictionaries; or it can result from dependence on others, that is, from the immediate feedback others provide.

Proofreading serves to strengthen the child's memory

of patterns and whole words. Through proofreading, the
child rechecks his speech sound, spelling pattern relation-
ships, and with the aid of syntactics and semantics, quite
often will discover the need to reorganize stored
information.

Through proofreading, the stored patterns in the memory
bank are increased, thus the individual's processing system
is expanded increasing his spelling vocabulary.

Definitions of Spelling

Introduction. Although the spelling process has been recognized
as consisting of both sensory-motor and cognitive factors, the definitions
of spelling have not included these dual characteristics of the spelling
process. Most often, the definitions have described the process as
involving either sensory-motor or cognitive learning. Each of these
definitions of spelling will be discussed in the following pages.

Stimulus Response Definition of Spelling. The stimulus-response
definition of spelling reduces the actual spelling process as much as
possible to a simple, mechanical, reflexive, sensory-motor form of
behavior. According to this definition, when producing a word, the
child uses a ready made, automatic response.

Allred (1977, p. 9) defines spelling as "a familiarity with
shapes and letter sequences". This definition describes spelling as
consisting merely of naming and writing in proper order the correct
letters. It would appear that Tireman (Sherwin, 1969, p. 59) agrees
with this definition, since he holds that "the essential fact in spelling
is to write all the letters and have them in the right order".

From the stimulus-response definitions of spelling listed thus far, it is evident that the behavior involved could be described as "spelling without thinking" (Anderson, 1972, p. 362). This definition seems to place little emphasis upon the cognitive operations required in spelling. However, as was pointed out earlier, few words are learned solely through sensory-motor learning. Rather, the stimulus-response definition entails the cognitive process by necessity, for the child cannot spell all his needed words simply through memory recall. Furthermore, it must be realized that the coded patterns which he does recall required use of the cognitive structures for their organization in the first place. This is a continuous process: the child notes the patterns in words and then organizes and codes this new information.

Thinking Definition of Spelling. There are educators who hold that the spelling process consists of more than a stimulus-response form of behavior. They claim that the encoding of familiar language into written form, involves, by necessity, the translation of thoughts into sounds and the recording of sounds in print (Walker and Paddock, 1975, p. 9; and Hanna (Allred, 1977, p. 28)). When one communicates through writing, thoughts or ideas are being expressed; this expressing necessarily involves a fundamental thinking process. Here, the written process is viewed as a means of expressing thoughts.

If the child is to convert his thoughts into print, further concentration is required. He must hear, speak, and think sounds, in order to distinguish among them. The child must decide which rules to use, which patterns to follow, and which symbols to use in representing the sounds. Because of the occasional irregularity between sound and symbol, examining patterns, absorbing the rules, looking for exceptions

and accommodating the exceptions becomes a more challenging task.

Stimulus-Response and Thinking Definitions of Spelling.

A definition of spelling which incorporates the full essence of the spelling process is needed — one which incorporates both the sensory-motor and cognitive processes. A definition of spelling which views the process as more than the discipline of putting thoughts on paper must be found.

Graham and Miller (1979, p. 2) propose a definition which appears to be a consolidation of much expert opinion. They define spelling as "the ability to recognize, recall, reproduce or obtain orally or in written form the correct sequence of letters in words". I feel that if the educator is aware of the prerequisite sensory-motor and cognitive processes which must be developed in order to attain this "ability to recognize, recall, reproduce ...", then the definition of spelling proposed by Graham and Miller can be accepted as an encompassing definition of the spelling process.

Summary

In this chapter, the spelling process has been described as consisting of two constituent processes: 1) the sensory-motor, and 2) the cognitive. The sensory-motor process includes visual, auditory and kinesthetic learning, whereas the cognitive process comprises the thinking processes of the individual. In the cognitive process, the individual learns to organize, code and store his spelling patterns. The extent to which he utilizes his cognitive process depends on such factors as 1) his memory, 2) the nature of the words to be learned, and 3) his concern about proofreading.

The sensory-motor and cognitive processes can be seen as separate yet interrelated, the success of one process being greatly dependent upon mastery of the other process.

Given such an understanding of the spelling process, definitions of spelling which comprise the entire process can now be formulated. Existing definitions can be expanded to include emphasis on the underlying sensory-motor and cognitive processes, as was done in this chapter with the presenting of Graham and Miller's definition: spelling is seen as more than a mastering of the orthography of spoken language. It becomes, also, a means of expanding the individual's speaking and writing vocabulary.

SPELLING READINESS

Introduction

If a child is to master the spelling of words, certain skills are prerequisite. It is these skills, prerequisite to spelling proficiency, which constitute "readiness" activities.

Readiness activities for specific spelling words are needed at all stages in the spelling process. This implies that the teacher must be aware of the required spelling skills not only at the initial stages but throughout the learning. A constant testing of the individual's readiness is needed at each stage in the spelling program to determine whether the student is ready for more advanced spelling. Such testing can be informal (i.e., teacher observation), or it can be of a more formal type, consisting of standardized testing. Testing will be dealt with in a later chapter along with suggestions for remediation.

Before a child can learn the spelling of a word, he must be ready for it. It is difficult to determine whether a single factor or a combination of factors accounts for spelling readiness. Malone (1962, p. 439) says "a child is ready to spell when his eyes are filled with print, his ears conscious of sound, and his ideas crying out to be recorded in permanent form".

While it is true that such physical factors (including vision, hearing and motor coordination) as stressed by Malone, are vital to spelling readiness, it must be realized that learning to spell is a

complicated maturational and learning process (Smith, 1972, p. 427).
Besides physical factors, psychological and pedagogical factors also
contribute to this maturational process. Readiness exercises which
provide for the development and testing of these psychological and
pedagogical factors are essential. Each individual's physical,
psychological and pedagogical needs will vary, and well planned readiness
exercises in these areas make it possible for the child to learn to spell
at his appropriate level without excessive strain.

Educators agree that one of the prime reasons for student
failure in spelling is an inadequate readiness program. For most
students, not until the necessary readiness activities have been provided
can each child be expected to produce the appropriate spellings.

In the pages to follow, there will be supplied an accounting
of the extent to which physical, psychological and pedagogical factors
can contribute to spelling readiness.

Physical Factors

a. <u>Home Environment</u>. The child's home environment affects
what he brings to the learning task. Emphasis placed upon the child's
health, nutrition, and general language experiences can influence
significantly his readiness for learning.

Readiness activities which heighten language development are
needed. Some homes may offer the child a rich language background
including informal experiences with sound and vocabulary knowledge.
Here, the child is encouraged to talk and to interact with an attentive
audience. He, in turn, is encouraged to provide an attentive audience
for others.

Not surprisingly, parents' attitudes concerning the importance
of proper spelling often influence the child's own attitude towards
spelling.

b. _Visual memory_. The importance of visual skills as a
determining factor in spelling competence is generally agreed upon by
educators (Horn, 1966, pp. 36-44; and Hendrickson, 1967, p. 40). Holmes
(Tashow, 1970, p. 5) claims that two thirds of the children rely heavily
upon their visual skills.

Readiness activities for developing visual memory are needed.
While initially, it is not absolutely necessary, the child's memory
could be developed to the extent that he is capable of recognizing the
names of letters as capitals or lower case (Burrows, 1972, p. 59;
Dallman, 1971, p. 194). He must be capable of writing from memory his
own name and a few other frequently-used simple words (Cain and
Michaelis, 1950, p. 879; Read, Allred and Baird, 1972, p. 14). The
child must be able to perceive likenesses and differences in words and
realize that words are composed of different letters. He should be
capable of copying words correctly.

While educators disagree as to the amount of teaching required
to develop visual skills, it is generally agreed that not all visual
skills are inborn (Forrest, 1967, p. 274). Since visual skills are
affected by perception, meaning, vocabulary, and visual-motor
coordination, these skills must be planned for in the educational
setting.

Johnson (1956, p. 272) states that ability to comprehend and
use language orally indicates potential in reading, writing and
spelling. Understanding of the word is prerequisite to clear visual

activity, for "the eye can only take in as much as the mind can comprehend" (Strang, 1955, p. 597).

Through the provision of time to observe and discuss, the child will discover the meanings of words, thus expanding his vocabulary. He will also be led to discover the relation between spoken and written forms.

The extent of development of visual motor coordination affects visual memory through the additional feedback it provides in storing visual information. This information is used when the child needs to select the correct graphemic options.

c. _Auditory memory_. Hearing is a primary means of obtaining information. Opportunities must be provided for developing sound perception and discrimination.

Readiness activities should involve practice in recognizing the initial letters in words and associating the sound with the letter (Burrows, 1972, p. 63). Once the child has a beginning phonetic sense, he will be able to recognize the common letter-sound combinations in other positions (Gould, 1976, p. 222; Hanna, Hanna, Hodges (Van Allen, 1976, p. 243). In such a way, the child will have acquired a clear understanding of what a word is — that is, that it is made up of single speech sounds bound together in written form, each sound being represented by one or more letters of the alphabet. Moreover, these readiness activities will provide for hearing the words in meaningful contexts while avoiding over-exaggeration of phonemes. This aids the child to appreciate a word's morphemic structure, its affixes, base and their relation to syntax and meaning (Goodman, Smith, Meredith, 1975, p. 246).

d. **Speech.** A fairly large speaking vocabulary is prerequisite for spelling (Archer, 1956, p. 268). Stauffer (1958, p. 207) and Burraus (1964, p. 17) claim the quality of the child's speaking vocabulary is the best single measure of his readiness for spelling.

No single speaker uses the same pronunciation time after time, for language varies according to the situation in which it is used — we are more careful how we talk at certain times than at other times. Furthermore, our changing pronunciation reflects our times and our culture, as new words are introduced into the language. However, educators disagree about the extent to which spelling errors are caused through mispronunciation and dialectal differences.

Some educators point to dialect as creating a gulf between oral language and written language tasks. They claim that vowel phonemes and homophones vary from one dialect to another, and further, that this is complicated by the fact that the number of alternative spellings for any given sound segment are severely restricted. Representation of these varied sounds is mixed. Goodman (Graham, 1970, p. 374) states that the learning of the writing system for a child with dialect approximates the learning of the writing system of a second language.

To remedy this problem, some educators believe that the student should be taught how to talk properly; that is, that he should be drilled on the pronunciation of words before he is taught how to spell. Eisenson and Ogilvie, 1963, p. 200; and Marjorie, 1930, p. 66 support this contention while reporting their experiments in which they found that groups of children given speech training in school excelled in spelling.

Others claim that speech training is not necessary before the successful teaching of spelling can be commenced, — that there is little relationship between errors in children's articulation and their faults in spelling. Brengleman (1970, p. 135) affirms that the idiosyncracies of a child's pronunciation do not always affect his spelling.

Walker and Paddock (1975, p. 11) attribute one-quarter of spelling errors to the differences between local and standard English. According to their findings, dialect is not so detrimental to spelling ability as one would suppose. These researchers would probably agree with Kligman, Cronnell and Verns (Groff, 1973, p. 91) that while more backward spellers than normal spellers will reveal speech defects, misspellings quite often are not the immediate consequence of oral errors.

The investigator feels that a critical part of the school experience of the elementary child should be talk of various kinds. Through the teacher's provision of opportunities to question and to discuss, the child's language development is furthered. His cognitive memory is stimulated as he strives to recall precise words to describe his feelings. Meanings of familiar words are reinforced and expanded as he hears these used in new contexts. In such a way, his level of convergent and divergent thinking is further developed.

While certainly a relationship does exist between speech and spelling, the massive task of attending to children's problems in articulating is not likely to have much effect on their power to spell. The teacher shouldn't try to change the child's dialect with the hope that a conversion to a socially acceptable "standard English" would

improve his spelling abilities. If it is found that the spelling errors are dialect-related, then the teacher can provide more extensive spelling exercises in which dialect children listen carefully to the way they pronounce the words and then note carefully how these particular words are spelled.

e. <u>Muscular coordination</u>. Muscular coordination is a developmental process, progressing from gross motor to fine motor coordination. Muscular coordination should be developed to the extent that the child can control his pencil quite well, in order that he may write legibly the letters of the alphabet and copy simple words from books, the chalkboard or charts (Vandermeulen, 1976, p. 201). This rather complex operation requires coordination of the eye and hand.

Psychological Factors

a. <u>Mental maturity</u>. The child must be intellectually able to learn to spell. Educators disagree over the minimal mental age needed if one is to begin spelling instruction. Most school systems start spelling instruction when the child reaches seven to seven and one-half years (Logan, 1967, p. 438). However, there is probably no optimum spelling age, for the child may be ready to spell before or after he reaches the age of seven.

Other educators question whether formal spelling instruction should begin even in second grade. At that particular time, other activities may be more important to the child's total development than is spelling. If the spelling task is too difficult for the child in his early attempts at learning, he might well develop negative attitudes towards school activities, with the result that it would

be difficult to interest him later on.

    b. _Emotional Stability._ The child must be able to attend to the spelling task. Often, spelling will involve much concentration for the child, since it is not always an automatic process but involves rechanneling and relearning. The child should have a certain amount of self-control and self-reliance.

    c. _Attitudes._ Positive attitudes condition future success in spelling. Regardless of the adequacy of the program, progress will be restricted if the student is not motivated to spell correctly or is not interested in spelling. The child must demonstrate a desire to spell. His attitudes are often reflected in his intellectual curiosity, as seen when he is curious about words and asks after words when in doubt.

    Readiness activities for the development of positive attitudes should consist of the teacher's showing the student the importance of correct spelling in practical and social situations, thus encouraging pride in correctly spelled papers. She must provide interesting and worthwhile activities so that the child will recognize a purpose for writing and accept spelling as essential to communication. This is accomplished through providing efficient learning techniques, using words on an appropriate level and of high social utility. Tasks must be structured so that the student can succeed.

    Readiness activities must provide practice in developing proofreading skills. The student is encouraged to locate incorrect spellings in a short list of words (Fergus, 1964, p. 7), or in other written assignments (Oswalt, 1961, p. 22-23). To accomplish this, the child will often have to be required to use the dictionary. Training in the use of the dictionary may include alphabetizing words,

approximating the location of a given word in the dictionary, using guide words, and dividing words into syllables.

Pedagogical Factors

a. Nature of the English Language. The nature of the English language affects spelling readiness. Readiness for spelling is said to be made more difficult by the "physical defects" of the English language (Katula, 1977, p. 298). The irregularity of sound and symbol has been stressed as one of the greatest physical defects.

On the other hand, Gould (1976, p. 222) says this is one of the most common excuses for poor spellers. He claims that all languages are phonetic and insists that the nature of the English language is a strength rather than a weakness. The very syntactic and semantic systems underlying the English language contribute to its regularity.

b. Readiness Curriculum. The type of materials used to develop spelling readiness often determines the extent of the child's readiness. Methods and materials used for spelling instruction must be on an appropriate level. Readiness materials should be interesting so that the child is motivated and stimulated to attend. Spelling readiness programs must encourage the development of all the factors which contribute to spelling proficiency, one of these factors being reading ability.

There is no clear agreement as to what level reading is required before spelling instruction commences, with Russell (Hillerich, 1976, p. 73) stating that the child must be able to read first grade readers fluently and Read, Allred, and Baird (1972, p. 14) stressing the need for the child to be reading at the second grade reading level or better. Indeed, there is agreement only on the need for the learner to be able

to read, pronounce and use the word before being expected to spell it
independently (Burns, 1971, p. 319).

Since spelling readiness is related to reading readiness, nearly
all that is done to achieve reading readiness leads to spelling
readiness (Anderson, 1972, p. 381) and (Furness, 1958, p. 235). A
rich reading readiness program develops the skills essential to spelling
success - such skills including word recognition, muscle coordination
and audio-visual perception.

Word recognition influences spelling readiness (Russell, 1943,
p. 278; Richmond, 1960, p. 191 and Furness, 1968, p. 267) and proper
techniques of word recognition must be taught. The spelling words
learned should be written the child's reading vocabulary and should be
phonetically simple. Readiness activities are needed to help the child
recognize high frequency words - structure words, nouns, descriptive
categories and enumeration words of highest frequency (Van Allen, 1976,
p. 234). This vocabulary can be developed through providing experiences
of encountering words through the use of books, and through discussion.

Summary

In conclusion, it can be readily recognized that development
of spelling readiness is a multi-faceted process consisting of physical,
psychological and pedagogical factors. Time must be provided for the
development of each of these areas.

It has also been pointed out that spelling readiness activities
are not developed in a vacuum but in conjunction with the other language
arts activities. Spelling readiness is dependent upon the quality of
readiness activities provided in the other language arts.

CHAPTER 4

SPELLING APPROACHES

Introduction

Spelling skills are not gained intuitively but need to be taught.
Hillerich (1976, p. 304) reinforces this viewpoint by claiming that
individuals can listen, speak and read effectively without ever knowing
how to spell a single word. So too, Schonell (Personke and Yee, 1971,
p. 40), having studied migrant children in England, concluded that
spelling is the area of the curriculum most dependent on instruction.

Efficient spelling skills are acquired through exposure to
methods of learning to spell. Horn (Petty, 1971, p. 396) supports this
belief and recognizes that while it may be impossible to teach all the
words which a child will need in his writing, it is not impossible for
him to learn these words — once the child has acquired efficient spelling
skills. Indeed, such is what Aristotle in 340 B.C. was apparently
advocating when he described the good speller as "... one who spells
correctly because he knows how" Hodges (Robinson, 1977, p. 11).

Comprehensive and meaningful approaches to spelling which
reinforce methods used in the other language arts are needed. The
teacher must interrelate spelling instruction with listening, speaking
and reading. As will be discussed later, progress in spelling is
dependent upon a thorough understanding of each of these areas. In
this multi-media approach, spelling helps reinforce the other language
arts as the continuous interaction involving listening, speaking,
reading and spelling develops.

Spelling approaches must be adapted to fit an established purpose, given pupil status, and teacher's ability to teach spelling. Each of these variables will be discussed separately in the following paragraphs.

When choosing an efficient method of learning to spell, the teacher should bear in mind that spelling is an individual matter. One must begin at the student's tentative instructional level. This implies that an effective spelling program does not use a single approach, that there is no one "best method" or technique for all students (Robinson, 1977, p. 8; Goodson, 1974, p. 3).

Most researchers and educators would agree that it is not the method per se which determines spelling success; rather, it is a matter of how the method is implemented. Much depends upon the teacher's concern and initiative in choosing appropriate methods of instruction for each individual child.

Although some of the most comprehensive research in teaching methods has been done in the area of spelling, there has been little change in instructional techniques. Quite possibly, such results of research and experiments were not readily available to the teacher. In 1892, (Rice) and again in the 1950-60's, educators were warning that spelling is not being taught as effectively as it should be because too much time was spent on the direct teaching of spelling, on nonsense drills, rather than communicating. Methods of teaching spelling were often based on public opinion only (Richmond, 1960, p. 3; Fitzsimmons and Loomer as quoted by Graham and Miller, 1979, p. 2; and Horn, 1966, p. 2). More time is needed for concentration on methods of teaching spelling. We know what to teach – the question is how to teach spelling,

how to implement the method. Carlsen (1958, p. 219) says spelling in the schools is like the weather in Mark Twain's famous comment, "Everyone talks a great deal about it but few have tried to set a thorough and consistent program to attack it".

Logan (1972, p. 316) insists that since the 1960's, emphasis has been on improving instruction in spelling; that today we offer a more diversified approach to the teaching of spelling. Today, we offer direct, functional, deductive teaching. Such informal and formal spelling methods will be discussed later in this chapter.

In summary, the importance of teaching spelling skills cannot be dismissed lightly. A great deal of research has been done in this area and much has been accomplished with regard to the most worthwhile skills to teach. The spelling skills taught should be integrated with the other language arts and adjusted to suit the purpose, pupil status and teacher's ability. The tremendous research in spelling skills notwithstanding, teachers are still clinging to antiquated practices.

Informal Spelling Approaches

Discovery Approach. From the early part of this century to the present day, educators have advocated the discovery (or "incidental") approach to spelling instruction as a means of developing the spelling skills (Rice, 1897; Cornman, 1902 (Hillerich, 1976, p. 14); and Stauffer, 1958, p. 208).

According to the "discovery approach", the teacher starts not with the skill to be taught, but with the central experience upon which the skills may operate. She provides the experiences and then stimulates observation and discussion about those experiences. Writing is encouraged

as a means of expressing one's thoughts concerning the experiences and, while expressing his thoughts, the child is led to discover relations between sound and symbol.

Piaget supports this discovery approach, proposing that children learn best what they figure out for themselves. In the discovery approach, the child develops his own unique spelling patterns. Independent study is recognized - the notion that each child has his own rate of learning the spelling patterns. In such a way, the quick are challenged and success is brought to the reluctant.

On the other hand, other researchers assert that while the child does improve in spelling somewhat as a result of the incidental approach, more than incidental learning is needed. Allred (1977, p. 19), for example, advises that the relation of spelling to other school subjects does not justify the incidental approach. Rather, a combination of functional, systematic study of words and discovery learning is needed.

In conclusion, the discovery approach allows the child to figure out spelling patterns and generalizations for himself while progressing at his own rate. However, since much guidance is needed in order for the child to learn the correct phoneme-grapheme relationships, the discovery approach must be supplemented with other formal approaches to spelling.

Individualized Spelling Approach. Spelling is an individual matter. Unfortunately, however, research evidence is inconclusive as to the advantages of individualized instruction. There is no agreement among educators as to what constitutes an individualized approach to spelling. This may well be due, of course, to the fact that each child has his own rate and method(s) of learning spelling.

Standard spelling is more difficult for some pupils than for others. As early as 1927, George D. Strayer (Allred, 1977, p. 15) found in grade six 1) a range in spelling ability equal to ten grades, and 2) in the middle fifty percent, a range of two and one-half years between the lowest and highest scores. Furthermore - and this is true generally, as children progress from grade to grade, there is a greater spread of academic achievement.

Similarly, studies have indicated that forty to sixty percent of all children at a given grade level should be able to spell grade-level words without prior study. One quarter of all children will misspell more than half of the words on the placement test for their grade level and must be placed at a lower level for spelling instruction (Vandermeulen, 1976, p. 198).

Methods of teaching should be adapted to the needs of individual pupils, if they are to develop spelling power. Ability to spell one word is distinct from ability to spell another word, and the child must learn at his own rate the words he needs at his level. He must use the study method best suited to himself. This is supported by Rudman (1973, p. 603), who states that each child needs to work with words different from those of every other child at any given time.

In the individualized spelling approach, learning activities are assigned to be performed by children working along and in groups. A new skill can be introduced to the whole group; after teaching practice and application, follow-up may take place on a small group or individual basis. Peer teaching-buddy system is encouraged in this approach, and team study is provided in the form of one-to-one conferences, small groups, and whole class instruction.

Because of this functional, child-development approach to spelling, spelling failure is virtually nonexistent. Motivation is heightened, and with such positive attitudes, pupils' curiosity is fostered as they learn more and more about word usage, meanings, and word formation. The dictionary is used more often and good habits of accuracy and correctness are built while each child develops a better writing vocabulary.

In the individualized spelling program advocated by Eisman (1962, p. 179), the child selects as many words from a list as he feels he can successfully learn in a week. He then prepares the list, practices with a partner, and studies misspelled words. Here, the spelling task is kept close to the individual's spelling problem, being directed to points of error. Eisman found an average of .8 to 1.5 grades higher in those students using this approach than was true for those in the group program.

Not enough is being done to individualize spelling instruction. Yee (1969, p. 90) emphasizes that teachers are not taking advantage of the fact that spelling is one of the less difficult areas of the curriculum to individualize and that individual differences among students are easy to diagnose. He realized the need to adjust the curriculum to include spelling methods containing more individualized procedures based on intrinsic motivation and meaningful purposes.

In summary, the individualized approach to spelling encourages each child to progress at his own rate of learning. This approach also increases the child's rate of progress in spelling, since instruction is directed at points of error and can be highly motivating.

Integrated Spelling - Writing Approach. Horn and Otto (Cramer,

1970, p. 231) suggested that engaging in written experiences may

generate better spelling performance. Indeed, it has been proposed

that the child should be encouraged to use the written mode of com-

munication even before he has mastered the reading skills. Chomsky

(1970, p. 296) and Durrell (1976, p. 5) emphasize that although reading

a word is a more difficult task than creating it, and that the child's

desire to write comes earlier than his desire to read, he is still

denied his "active role in the whole process" by being expected to read

what someone else has written.

Opportunities must be provided for meaningful written activities

(Graves, 1968, p. 636; Cunningham, 1978, p. 69). Hahn (1964, p. 385)

advised that if the child's written language activities have an expressive

or communicative purpose, he will tend to move toward adult norms in

spelling.

When the purpose for writing is communication, expression of

ideas takes precedence over proper spelling. The teacher does not have

to wait until the child has learned to spell words before allowing him

to use words in writing. Misspelled words are temporarily accepted,

since the child's spelling does not have to be corrected every time

(Hillerich, 1977, p. 305; Goodman, Smith, Meredith, 1975, p. 244;

Personke and Yee, 1971, p. 83). While spelling does help facilitate

communication for the receiver, it can also interfere with the creative

communication process. Standard spelling can limit communication, for

as Sherwin (1969, p. 29) points out, an overconcern with perfection at

all stages in spelling can lead to impotence in communication. Many

self-generated nonstandard spellings can result, for the child will have

invented a system of spelling, the principle of how it works being his.

When the spelling program becomes an integral part of the writing program in this developmental approach, the student will become more eager to write. He will also become more willing to rewrite and make corrections as the teacher gradually moves the child toward a more consistent symbol system.

In this integrated spelling-writing approach, correct spelling becomes a courtesy, a finishing touch, an ultimate goal of education in the program of written expression (Cronnell, 1975, p. 12; Logan, 1972, p. 329). This will require the child's use of a wider and wider range of vocabulary (Smith, Goodman, Meredith, 1975, p. 244; and Hanna (Horn, 1966, p. 49). Independence in correcting and ingenuity in locating and using information will develop automatically, resulting in improved writing and fewer spelling errors (Petty (Horn, 1966, p. 613); Hillerich, 1971, p. 306).

Through the teacher's acceptance of unconventional spelling, frustration for the child is minimized. Positive attitudes are developed and witnessed through the increase in prediction-confirmation done by the child as he attempts to associate phoneme and grapheme while using the dictionary.

The integrated spelling-writing approach provides for meaningful writing as the child attempts to communicate his message. Here, the emphasis is on communication and consequently, misspellings are temporarily accepted. Through this highly motivating approach, the learner takes a greater responsibility for correct spelling.

Formal Spelling Approaches

Textbook Approach. Spelling textbooks have provided well-articulated, overall plans for developing spelling skills. The textbooks have determined most of the procedure, content, scope and sequence of the learning tasks. Many of the language arts skills are found in spellers (word recognition, phoneme-grapheme relationships, generalizations, structural forms, visual, auditory and motor imagery, dictionary skills and meanings).

It could be argued that there has been an unjustified over-emphasis on the basal spelling textbook (Yee, 1969, p. 90; Funk, 1972, p. 286). Through human unawareness, this easily applicable and workable mechanical instrument has been used as the traditional basis of the spelling program. Even so, spelling textbooks must be considered as aids to spelling instruction and should not dominate the spelling program. They are resource tools and if overused could devitalize the spelling program, since often they offer little variety and do limit direct techer involvement.

As late as 1977, Graves found that spelling books still contained a large proportion of inappropriate activities. He (1977, p. 88) pointed out the uselessness of exercises dealing with silent letters, phonetic respellings and vowels. Jackson (1972, p. 91) claimed that basic facts about the spelling of sounds are ignored in spelling textbooks. So too, educators believe there is a lack of development of spelling confidence in most spelling textbooks (Jackson, 1972, p. 91; Oswalt, 1962, p. 22-23; Personke and Knight, 1967, p. 769). Exercises on developing the skill of proofreading are not often found in the spelling series.

Few spelling textbooks offer any individualization. Since each learner has many individualistic spelling skills to master, spelling programs must be adapted to the needs of the individual pupil, aiding him in expressing himself more effectively. Appropriate spelling methods and word lists will vary from one individual to another. The content, scope and sequence of these tempting mechanical instruments must be based on the needs and interests of the children.

Spelling textbooks, if used, usually offer only one spelling list per week. Although it is impossible to predict the range of words an individual will need in his lifetime (beyond a central core of three thousand to four thousand high frequency words), it is a well-established belief that more than one weekly list is needed to meet the individual child's needs.

Merely emphasizing the basic spelling list makes spelling a dull affair, providing only the minimal essentials for instructional programs. The spelling words learned should be those of highest frequency in order to assure a degree of independence in reading and writing (Brown, 1970, p. 242; and Van Allen, 1976, p. 188). There is, nevertheless, much disagreement among textbooks as to what constitutes "high frequency" words.

The writers of spelling programs do not agree on the placement of words. Different programs emphasize different words. Thus, there is little agreement as to the words taught or the grade level at which these words should be taught. For example, Wise (1934, p. 755) compared 20 spelling programs and found a total of 13,641 different words in the 20 programs but only 884 words common to all. Betts (1949, p. 4) examined 8 spelling series and found 8,652 different words taught, with

agreement on the inclusion of only 483 words in the 8 series. Only 65 of these words were graded in the same way in the different series. Hillerich (1965) compared 16 commercial programs and found 5,327 different words with 486 words common to all.

We have realized long since the fallacy of the weekly spelling columns (Gates, 1956, p. 275). Quite often these lists only staisfy the superior student, since there is little provision for using these words in communication. The child's spelling vocabulary must be related to his everyday reading and writing needs (Burns, 1975, p. 363). Words to be studied must be those the child already has in his oral and meaning vocabulary, thus time has to be provided for oral discussion of meaning and usage of unfamiliar words. As a consequence, these words then contain personal meanings for the child, making the recognition of them easier.

Horn (1960, p. 1344) stresses that in order to ensure present and future use of the words, spelling words to be learned should be those used frequently in adult writing. Hillerich (1976, p. 121) says that ten words will account for one-quarter of all the words used in children's and adult's writing, and that one hundred words comprise two-thirds of all the words used in the writing needs of children and adults.

When deciding upon word lists, the teacher must also consider the linguistic principles of these words (Hanna, et al., 1966, p. 62). The relationships between the sounds of language and their graphic representations must be studied, rather than to present lists of thematically related words to be learned mechanically.

Word lists should also include misspelled words to be relearned. These words are to be added to the child's personal word list at each level of growth. Robson (Campanale, 1962, p. 452) found that students' misspellings dropped 27% when they kept a list of errors.

In summary, in order to attain a worthwhile use of spelling textbooks, a clear understanding of the spelling process itself is needed. Learning to spell is an individual matter, and spelling textbooks should not become a set pattern for instruction.

With this in mind, spelling textbooks must be reviewed for content, approach and effectiveness. Different textbooks emphasize different word lists. These word lists must be examined for frequency of occurrence, permanence of value, word difficulty, common linguistic principles and persistence of difficulty. True, there is some value in weekly spelling columns if they are supplemented with other frequently occurring words. The successful speller masters not only the spelling list, but also the individual and room list, depending on his needs.

No matter which spelling lists are used, they must be learned in an informal, practical setting, one which allows and encourages the systematic study of spelling lists.

Word Analysis Approaches

Phonetic Approach. Educators have recognized the highly contro-versial nature of the phonetic approach. Research evidence is incon-clusive as to the advantage of phonetic instruction over nonphonetic instruction; a great deal of research is available to support or reject this approach to spelling.

There is no agreement on the extent to which the English language may be considered on alphabetic language. Some educators

claim that the English language is a purely alphabetic language with the written letters corresponding to the spoken sound in a strict one-to-one relationship. Others believe there is no relation between the sound and the letter – that any such arbitrary phonetic system has little value. Both sides of the argument will be discussed in this situation.

Studies have been performed which point to the advantages of phonetic instruction. Certain students given unusual amounts of phonics training made significant spelling achievement over a matched group who did not have this special training (Russell, et al., 1968, p. 133). So too, Jackson (1972, p. 95) reported that remedial students given phonetic training achieved grades ranging from 75-100% on a list of twenty-five words taken from their reading vocabulary and pronounced to them for the first time with no prior study. When Groff (1965, p. 164) replaced weekly spelling tests with phonetic instruction, significant increases in spelling ability were found.

Scottish children were found to be better spellers than American children, apparently because of the advantages of phonetic spelling instruction (Personke and Yee, 1971, p. 43). Good and poor spellers in average and low average intelligence quotient ranges found phonetic instruction useful when they attacked unfamiliar words (Yee, 1969, p. 90).

George Spache (1941, p. 573) and Hodges (Horn, 1966, p. 37) concluded that phonetic knowledge and skills play an important part in spelling ability. They insist that in the encoding of familiar language structures into written form, the alphabetic nature of English must be taken into account.

Advocates of the phonetic approach hold that few words have no

cues. They warn that so much emphasis has been placed on the irregularity of American English that the regularities are ignored. According to them, most consonant and short vowel sounds are almost always represented in a specific position by the same letter. Thus, the child comes to realize that there are patterns of consistency depending on internal constraints. A large number of words contrast in predictable, systematic ways (Fries, 1963, p. 168; Cronnell, 1975, p. 4). In such a way, the diversity which does exist in the written language becomes a positive enrichment while it helps to preserve the meaning and aids reading.

Hanna, Hodges, and Rudorf (Hodges and Rudorf, 1965, p. 61) used a computer to analyze phoneme-grapheme relationships and found 84% of the 17,000 words were spelled consistently when put into the computer phoneme by phoneme. In an earlier study, Hanna and Moore (1953, p. 37) reported that b, d, hard g, h, m, n, p, r, t sounds are spelled regularly 80% of the time; 82% of the consonant blends were spelled regularly; and 75% of the vowel phonemes are regular in spelling 60-90% of the time.

Calling attention to "Spelling Demons", another much-used illustration of the irregularities of the English orthography, was found to constitute only 3% of a vocabulary of 17,000 words (Hanna, Hodges and Rudorf (1916). Hanna and Moore (1953, pp. 327-329) found double consonants to occur less than one percent of the time. They diminished the significance of silent letters as they demonstrated that "silent e" must be recognized as part of the set of graphemes in the spelling of the vowel sound, whether it is used as a helping letter in making long vowels or to spell final sounds. In a similar

manner, the beginning sound in consonants (i.e., kn) is vital: the
initial consonant must not be considered silent.

On the other hand, other researchers stress the need to avoid
phonics. The English language, they claim, is a difficult system
(Katula, 1977, p. 299; and Algeo, 1965, p. 41) consisting of erratic,
arbitrary and unorthodox spellings of the various sounds. Mazurkiewicz
(Jackson, 1972, p. 94) states that eighty-five percent of our words are
spelled regularly, but that the remaining fifteen percent irregularities
are used eighty-five percent of the time.

Familiarity with shapes and letter sequences is a difficult
task, some researchers affirm. There are discrepancies in the number
of letters and letter combinations used to represent English sounds.
Most letters spell many sounds and many sounds are spelled in varied
ways (Hanna and Moore, 1953, p. 335; Hodges and Rudorf, 1965, p. 532;
Sofietti, 1955, p. 80). Few words are wholly irregular but are
irregular in one or two of the phonemes contained in words. These
educators, advocating a nonphonetic approach, point to the forty-three
sounds and only twenty-six letters to represent them or to the two
thousand complex, multiple visual patterns to represent forty-four
single, simple sounds.

The phonetic approach stresses consonant sounds which are often
"distorted" when pronounced in isolation. Mila Smith (1955, p. 564)
says a consonant or consonant blend does not have the sound of a syllable
when it occurs in a word with other letters.

Vowel patterns are hard to predict. Anderson (1972, p. 363)
points to the three hundred different combinations which can be used to
express the seventeen vowel sounds. The spelling of most words beginning

with vowels must be memorized (Van Allen, 1976, p. 177), and the letter /a/ has forty-seven different sound associates (Anderson, 1972, p. 363). The long vowel sounds have a greater variety of spelling (Cronnell, 1975, p. 5). Allred (1977, p. 11) says there are thirty-nine common ways to spell long a, i, e. The schwa sound also causes problems. Along with Anderson (1972, p. 363), he found that the schwa sound in one-half of the multi-syllabic words in the 10,000 commonest words can be spelled thirty ways with any vowel or vowel digraph.

Besides the inconsistencies of sound and symbol, the difficulty with silent letters, and so on, intensive use of phoneme-grapheme relationships has also been said to muddle the learning techniques (Petty, Petty and Becking, 1973, p. 254). The word attack principles stressed in the phonetic approach, it is said, are not understood by the child anyway (Beers, Beers, 1977, p. 242). It is believed that the child does not learn through word attack principles but through other methods such as letter-name strategies and discovery learning of the conventions of English orthography.

Wijk (1968), p. 301 says that given the traditional system of spelling, more than one-quarter of all English spellers are doomed to remain backward spellers. Personke, Yee (1966, p. 297) found three-quarters of spelling errors to be phonetic errors of generation, of options and misapplications. Algeo (1965, p. 210) confirms phonetic spelling to be the reason Johnny can't spell, and Betts (1955, p. 554) says a writer does not have a fifty-fifty chance of spelling correctly if he spells the word the way it sounds.

Suggestions have been made to move towards orthographic consistency, but such attempts to organize and reform the orthography

have proved unsuccessful. Godfrey Dewey (1968, p. 297) spoke of
standardizing, supplementing or supplanting the Roman alphabet.

Dewey said the initial teaching orthography should be phonemic
rather than phonetic, with each letter or digraph assigned a single
sound. Betts (1973, p. 137) supported this phonemic orthography,
claiming it gives better spelling symbols, more consistent spelling
patterns, and reduces probability learning.

Stevens (1965, p. 88), however, feared that if we had a solely
phonemic system, we would not only spell the way we pronounce but
pronounce the way we spell. Whose pronunciation then, is to be
reflected? He indicated that only a small percentage of the total
words have had their pronunciation changed to conform to their spelling.

One modern attempt to supplement the Roman alphabet by creating
new symbols has been the "initial teaching alphabet" (i.t.a.). This
consists of twenty-one letters in addition to the twenty-four letters
from the regular alphabet. Logan (1972, p. 389) says i.t.a. is a
"middle way" in spelling. Mazurkiewiez (1973, p. 9) recommended this
initial teaching alphabet because of the ease in expressing one's ideas
that it provides.

On the other hand, it has been proposed that the child's later
spelling performance is affected by an earlier use of i.t.a. (Nikas,
1970, p. 330). Fry (1967, p. 549) points to the length of time it
takes for slower children to transfer their learning. The quality of
the transition program greatly influences the success of i.t.a.

Efforts have been made by the Simplified Spelling Society to
create a phonetic spelling system. Its founders hope that this system
will help lessen what they consider to be the three commonest causes

of spelling mistakes: 1) consonants with single sound but spelled
with double letters (i.e., apreciate for appreciate); 2) English
Vowel Number 2. (bit) (i.e., manige for manage); 3) English Vowel
Number 12. (ego) (i.e., morter for mortar).

In this system, one extra letter $\mathbf{3}$ is added to the alphabet,
provision is made for dialects, and the apostrophe is not used.

Another possibility, as suggested by Dewey (1971, p. 115)
involves composing totally new characters - but he admits this to be
unrealistic. Such a reform would necessitate the creation of a complete
new printing system, which would be economically unfeasible, among other
limitations.

As can be seen from the above arguments, no conclusions can be
reached concerning the superiority of phonetic instruction. Indeed, the
crucial question becomes not whether phonetic instruction is useful but
how it can be most effectively taught and used by the speller (Simon and
Simon, 1973, p. 136).

Horn (Allred, 1977, p. 26) advises that instruction in phonics
should be an aid to spelling and not a substitute for the systematic
study of words. The phonetic essentials should be taught such that
regular, phonetic words having a high phoneme-grapheme relative are
introduced systematically first, followed by systematic, analytical
teaching of inconsistent, nonphonetic words. Phonetic instruction should
be supplemented, for other methods are needed besides phonics, especially
when the child is asked to master words that defy phonetic analysis. Use
of phonics alone would result in a "cold storage method" of phonics
instruction (Dolch, 1957, p. 227). Besides knowledge of the phonetic
system, spelling also requires knowledge of word structure (Smith, 1972,

p. 421) for the learner must be aware of the morphemic and syntactical codes. By necessity, phonics requires knowledge of word recognition and memorization. It is difficult to separate phonics from word recognition, for the child generates as many alternative spellings of a word as seems probable and then tests which of these is the correct spelling, through his word recognition, memorization (Smith, 1972, p. 423) and knowledge of word families (Chomsky, 1970, p. 298).

In conclusion it may be restated that phonics is an essential tool in spelling mastery, the extent to which it is used depending upon the individual. However, because of the many inconsistencies between sound and symbol, the phonetic approach must not be overused but must be supplemented with other proven spelling approaches.

Linguistic Approach. The development of linguistics has had a long history. It has been claimed that Leonard Bloomfield and Charles Fries, leading pioneers in American linguistics, led the way to achievements of present day American structural linguistics and to grouping of words according to linguistic principles.

Linquists hold that attempts to isolate and explicitly identify phonemes causes distortion. According to them, phonemes have no existence outside words, since every phoneme is not a single unchanging sound but is a class of sounds (Durkin, 1972, p. 19). In agreement with this, Stott (1970, p. 11) emphasizes that each sound has a fleeting existence, not reproducible outside the context of a word.

According to the linguistic approach, a large number of words contrast in predictable, systematic ways. The orthography is explored for patterns of spelling, consisting of vowel and consonant patterns and word families (Fries, 1963, p. 235; Cronnell, 1975, p. 4). Linguists

believe that we have an almost optimal English system, especially when form, class and position are considered (Venezky, as quoted by Gould, 1976, p. 223).

Because of this regularity within the orthography, this consistency between phonemes and graphemes, linguistic generalizations can be discovered and formulated. Then, once the generalizations are discovered, rules can be constructed. Hodges and Rudorf (1965, p. 532) state that over ninety percent of American English orthography is determined by a set of rules for the high phoneme-grapheme relationship and Hillerich (1976, p. 43) speaks of the high percent of accuracy for four simple vowel sounds. Children need opportunity and encouragement to discover for themselves the structures governing English spelling and to construct the rules which govern the structure of spoken and written language. According to this approach, spelling rules must not be imposed on the pupils but must grow out of their experiences as they discover the generalizations (Smith, 1970, p. 49; Dallman, 1971, p. 146; and Yee, 1969, p. 90). One means of aiding this discovery process could consist of supplying the pupils with contrasting patterns. Students are shown "minimal pairs" which differ by only one phoneme. These pairs are then compared and contrasted. In such a way, students come to understand "the difference that any particular letter makes" (Fries, as quoted by Durkin, 1972, p. 19).

The teacher must "select, adopt and create spelling lessons on the basis of spelling rules sequenced according to observations regarding their utility" (Brengleman, 1970, p. 137). The positive values of the rules are stressed as the child is helped to learn the many patterns and consistencies of the English language. In such a way, the exceptions

are more readily noted and mastered. A fairly complete understanding of
the English orthography is reached through the recognition that non-
phonemic rules coexist with phonemic ones.

Hanna et.al. (1966, p. 61) warn that "words learned in isolation
are likely to remain so, unless a relation is drawn to words of similar
sound and construction". The appropriate approach to spelling is one
that focuses on a sound and allows the child to explore its spelling
(Hillerich, 1977, p. 305). A single rule is learned at a time in an
inductive manner as the child is exposed to a list of words exemplifying
the rule (Burns and Broman, 1975, p. 376). He makes use of the basic
visual and auditory patterns and structural properties that make up the
words.

It is the consensus of researchers that the teaching of rules
for the sole purpose of memorization is a useless task. Not only is it
difficult to apply these rules, but Ashley (1970, p. 142) stresses how
easy these rules are to forget. This, he says, is due to their
complexity, to their many exceptions, for no learned set of rules can
generate all English spellings. He points to the many irregular words,
each requiring a separate act of learning, visual impressions and
frequent review. Establishing patterns of vowels becomes the central
issue and Hillerich (1976, p. 305) claims it would be useless to teach
rules about vowels - the rules are either too broad or too narrow. He
found that of the twenty-four generalizations relating to vowels, only
six reach the seventy-five percent level of utility. Anderson (1972,
p. 393) warns, for instance, that there are more exceptions to the rule
of when two vowels come together than there are applications to it.

In conclusion, rules should be treated with caution until their value is determined, for some rules are more applicable than others. Indeed, only a few simple rules should be taught, and those should be rules which have few exceptions. This requires the teacher to learn the important rules also, in order to diagnose more professionally a child's needs and to help him select and recognize the useful rules.

Structural Analysis. There is inconclusive evidence as to the value of morphology — the study of how words are formed, word parts, compounding, affixing, and word-families.

Fergus (1964, p. 7) indicated the improved spelling power attained through knowledge of the structural analysis skills. However, when Cohen (Graves, 1977, p. 87) compared structural analysis methods with those techniques which call for usage of words, he found that the former methods have little transfer of spelling to usage, being good only for retention. (Affixation, syllabication, hard spots and drill will be discussed separately here as components of the structural analysis method.)

Affixation. Educators and researchers alike have been debating whether knowledge of prefixes and suffixes contributes to word building.

Hodges and Rudorf (Horn, 1966, p. 33; Otterman (1955, p. 613) agree that learning to spell the principle prefixes and suffixes and how to add these to base words will result in higher spelling scores. Stauffer (Dolch, 1955, p. 605) noted that twenty-four percent of Thorndike's twenty thousand reading words have prefixes. Anderson (1972, p. 394) found that from Rinsland's Word List, the syllable - ing - helps spell eight hundred eighty more words.

LeFevre (Downing, 1972, p. 11) points to the ease of affixing, since word form changes (prefixes and suffixes) are spelled quite regularly without regard to difference in sound. However, Hillerich (1976, p. 152) stresses the futility of drill on the meanings of these prefixes and suffixes. Rather, the child should only be expected to know the meaning of the entire word, not just isolated prefixes and suffixes.

Despite the ease in applying the skill of affixation, students may not be prepared to apply some of the useful rules of affixation which could drastically reduce spelling errors.

Opportunities must be provided for an inductive approach to affixing. The child should be exposed to the spellings of derived forms as he learns the base words (Anderson, 1972, p. 362). Through observing and discussing, the child will come to discover the familiar parts of words – the roots, prefixes and suffixes.

In summary, awareness of prefixes and suffixes and how to add these to base words could greatly increase the child's spelling ability. However, this approach must be kept within reason, as, for instance, the child must not be expected to have the meanings of the prefixes and suffixes memorized but rather, opportunities should be provided for the child to experiment with affixes. He should be encouraged to apply the affixes to newly learned base words.

Syllabication. There is no agreement on whether a linguistically accurate system of syllabication helps spelling, since educators take one or the other side on the values of this structural analysis skill.

Advocates of the syllabication approach are hindered by the limited scientific researches in this area. Although the validity of

their studies has yet to be supported, Aaron (1959, p. 142); Newton (1960, p. 135) and Swearengen (1975, p. 3) claim that ability to handle syllables is a great contributor in learning to spell, especially for younger pupils or those of average intelligence (Hattie and Breed, 1922, p. 621).

Ability to syllabicate provides the learner with an understanding and a feeling for syllables in words. It lessens memorization (Osburn, 1954, p. 34) and brings oral language into closer correspondence with written language.

On the other extreme, many educators believe there is little advantage in using syllabication (Groff, 1971, p. 112; Sherwin, 1970, p. 35; and Burns, 1971, p. 323). They hold that the system of syllabication has yet to prove itself in improving spelling ability. According to them, from the beginning, syllabication was inaccurate. Written syllabication is inconsistent with spoken syllabication, since much of our spelling is based on Latin, with the open syllable being natural to the Latin language. So too, syllabication of particular words was identified incorrectly by eighteenth-century printers.

The common definition of the syllable as "a single voice impulse" is an oversimplification (Sherwin, 1969, p. 623; Goodman et al., 1970, p. 251). These educators emphasize that an accurate, simplified definition of the syllable as a variable and relative thing, dependent upon other factors (i.e., tempo), gives the syllable even less value as an item to be used in structural analysis. Furthermore, Wardhaugh (1969, p. 9) considers syllabication a superfluous endeavor, since it requires the child to have the very knowledge that syllabication is supposed to be teaching.

To summarize, syllabication has yet to prove itself in furthering spelling ability given the limited research in this area. It cannot be decided whether the educational gains warrant the large amount of time spent developing this skill.

Hard Spots (Demons). Most researchers are in agreement that pointing out the hard spots in words to an entire class is not a very effective method of structural analysis.

In 1929, Ernest Horn (Groves, 1977, p. 89) questioned exercises that attended to details and hard spots. Mendenhall observed in 1930 and Hillerich in 1976 that there were few common forms of misspellings in words, since different children have different problem spots in words.

Because different children have different hard spots, noting the general hard spots and arranging teaching lessons based on these difficulties could cause confusion. McKee and Masters (Hillerich, 1976, p. 18) and Rosemier (1965, p. 313) discredited teaching of hard spots because students could be taught those elements most often misspelled and still generate new misspellings at other points. So too, while Jensen (1962, p. 109) noted that most spelling errors occurred in the medial positions, regardless of the length of the words, he offered no direct implications for instruction for fear that the most common errors might shift to other positions.

A more positive approach is needed whereby the child looks carefully at the whole word as it is pronounced, noting its structure, the sequence of letters and their representations. Associations, such as mnemonic devices, could make storage and retrieval more durable and efficient than simple visual memory. Increased awareness of the sentence construction could also provide specific memory cues, making

accurate retrieval more efficient.

In conclusion, from the research collected so far, it may be said that the child's attention should only be drawn to irregular or difficult words when such difficulties do exist for the child.

Drill. Research evidence is an agreement as to the value of drill in improving spelling ability. Learning to spell, it would appear, is not simply a matter of enough drill work. The overlearning in drill neglects developing the cognitive and linguistic processes. Time could be better spent on helping the learner to assimilate new patterns and reorganize existing patterns. Drill also neglects understanding of the alphabetic nature of the language which Hanna (Groff, 1969, p. 207) claims is more important than drill. Through the active exploring participation of the learner, the child comes to understand the common phoneme-grapheme relationships.

Drill usually consists of massed repetitions which are better for short term performance. However, if drill is used, it should be well distributed in order for the learning to be effective, relevant and meaningful. For example, opportunities should be provided for active participation. Vandermeulen (1976, p. 201) confirms that the number of times a student writes a word has no relation with ability to spell it correctly. Drill, in the form of providing opportunities for the child to see a word in ten different situations during a day, rather than merely writing the word ten times, is needed.

In conclusion, teachers must be aware of the disadvantages in offering drill as a method of word mastery. According to research, drill wastes much valuable learning time, neglects developing cognitive and linguistic processes and is better for short term performance.

Summary

In this chapter it has been pointed out and stressed that there is no single effective method of teaching spelling. The teacher must determine which methods are most relevant for her particular task in her particular classroom. The child, in turn, must be exposed to learning spelling through different techniques. In the process of becoming independent, he must learn to use whichever methods are most suitable in his particular situations. The informal methods of learning spelling should not be separated from the formal methods.

The informal approaches (such as the 1) Discovery, 2) Individualized and 3) Integrated Spelling - Writing approaches) permit the learner to progress at his own rate in a positive learning - environment. Natural language use is encouraged and stimulated as a means of communication and expression.

The phonetic and linguistic approaches must be viewed as aids to spelling, providing knowledge of the sound-symbol structures and patterns of the English orthography.

Structural analysis methods, including affixing, syllabication, hard spots and drill, have been discussed as methods of becoming more conscious of word construction. Since there are drawbacks to these approaches, the educator must be aware of the current research dealing with these structural analysis methods.

In conclusion, no spelling approach must not be used in isolation - rather, use of one approach often necessitates another approach. It is through this multi-faceted approach that the speller comes to "recognize, recall, reproduce, or obtain orally or in written form, the correct sequence of letters used in spelling each word". (Graham and Miller, 1979, p. 2).

CHAPTER 5

SPELLING AND THE LANGUAGE ARTS

Introduction

There has been a certain amount of dissension over whether the
spelling period should be in isolation from the remainder of the school
period or if the entire spelling program should be carried out in
integration with the instruction in the other language arts, all within
the language arts time block.

Research seems to indicate the need for a combined approach
consisting of formal, separate teaching of spelling within an integrated
language arts program (Allen and Alger, 1969, p. 159; Gates, 1956, p. 276).
In such an approach, spelling will have its own instructional program
with each of the other language arts teaching and reinforcing it.

While pointing to the need for an isolated and integrated approach
to spelling instruction, Burns, Broman and Lowe (1966, p. 312) advised
that spelling periods probably contribute about 1/3 of the achievement
of good spelling, while the remaining 2/3 of the progress is more likely
the result of a "good working program".

In order to understand spelling's position as distinct from and
integrated with the language arts, these two aspects of the spelling
process will be dealt with separately in the following paragraphs.

The teaching of spelling as a separate subject can be justified
solely on the basis of its importance to proficiency in spelling and
the other written areas (Hanna and Moore, 1953, p. 335). Through a
direct, systematic approach, many of the skills which serve as aids to
becoming an independent speller are developed to the highest level

possible. Gradually, the child learns to adapt the best technique (skill) for his particular task.

These newly acquired spelling skills strengthen the other language arts. For example, understanding of the phoneme-grapheme relationships of initial consonants acquired through the phonetic approach is of great value in the language arts of reading and writing.

Spelling instruction must not be incidental. Complete reliance upon the transfer effects from other areas of the language arts should not be expected. Spelling is too essential a skill required in the written areas for such reliance; as already discussed, spelling clarifies and strengthens written communication.

For too long, language skills have been separated into small components with the expectation that students will fit these components together in order to become good spellers. However, many students are unable to integrate spelling with the other language activities in the classroom, thus making spelling failure more frequent (Burns, Broman and Wantling; Burns and Schell, 1973, p. 292).

Instruction in spelling should be integrated with instruction in the other language arts. The encoding and decoding processes are interrelated and should be taught simultaneously with spelling objectives (Smith, 1970, p. 49).

Through integration between the language arts, instruction in any one of the language arts will promote achievement in the other areas. Especially is this beneficial when one remembers that no aspect of any language process is learned perfectly at each stage of development (Smith, 1972, p. 248). The other language arts can help fill in some of the skills which the child has not acquired in the spelling process.

Spelling has been recognized as a sophisticated skill, as the most complicated language art needed in the sequence of language development. Because it is a difficult language art, its mastery depends upon a thorough grasp of the other language arts, including listening, speaking and reading. The following is a "language development model" as proposed by Smith (1972, p. 45):

Experience
↓
Listening
↓
Oral Expression
↓
Reading
↓
Written Expression
↓
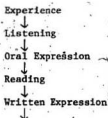
Creative Writing	Spelling		Handwriting
Capitalization	Punctuation	Grammar	Word Usage

Each of these language arts will be discussed separately in relation to the spelling process.

Spelling and Experience

Through his experiences, the child will have developed a fairly large listening vocabulary. He will have acquired a familiarity with words, learning to associate sound and symbol.

His meaning vocabulary will also be expanded as the child hears words used in many contexts. Through a clearer understanding of the varied meanings of words, the child will have a more flexible use of them.

Spelling and Oral Language

Although this section deals with oral language in its relation
to spelling, it must be remembered that listening precedes oral language
in the language development model as proposed by Smith. Listening and
speaking are inseparable parts of oral language and, oral language must
be viewed as a product of the listening experiences.

Spelling has its basis in the speech of the learner. The
orthography reflects the structure of the oral language upon which it
is based (Hodges and Rudorf, 1965, p. 531) and the child is helped to
realize that spelling reflects oral language through graphic symbols.
He also notes that writing is not a perfect representation of oral
language, that there is no one-to-one relation between the sounds and
symbols.

Through oral expression, word meaning is also developed. The
child is given additional insights into words which he will eventually
be writing.

Spelling and Reading

Research has indicated that teaching approaches which correlated
reading and spelling were favored approaches for teaching (Callaway et.
al., 1974, p. 6). A significant correlation has been found between
reading achievement and spelling ability ranging from .85 at third grade
level to .75 at eighth grade level (Plessas and Dison, 1965, pp. 14-22).

There is a close relationship between learning to read and
learning to spell (Spache, 1941, p. 573; Townsend, 1947, p. 468;
Morrison, 1959, p. 223; Plessas and Petty, 1962, p. 463; and Cramer,
1970, p. 232). According to Logan, et.al., 1972, p. 315; Anderson,

1972, p. 381) this is due to the fact that both spelling and reading are based on oral language skill.

In the initial stages of learning to read, the child is guided through an understanding of alphabetic principles, that letters represent sounds. This knowledge gained through familiarity with phonics in reading, can also be used in spelling. While phonetic spelling is not identical to phonetic reading, Dallman (1971, p. 216) advocates the teaching of those elements of phonics that are of value to both reading and spelling. So too, generalizations about the relation of speech patterns to sound patterns, acquired through reading, can in turn be used to produce correct spellings.

Some educators claim that efficiency in spelling and reading due to the inherent redundancy of the language makes predictions (hypothesis testing) possible. Both reading and spelling involve hypothesis testing, but the basis for the predictions differ. Reading involves semantic and syntactic redundancy, whereas spelling involves phonemic, graphemic and orthographic redundancies "with semantic redundancies becoming invaluable in spelling later on" (Gould, 1976, p. 221; Wallace, et al., 1968, p. 315).

Spelling will always be entailing reading by necessity, not only in the initial stages but throughout the process. For example, some children learn to spell many words by reading them frequently (Gilbert and Gilbert, 1944, p. 20). The evidence exists of deaf children, who, if reading abilities are equal, often exceed the scores of normal children in spelling (Gates and Chase, 1926, p. 292). This means of learning to spell could be due to the child's developing an image of the whole word pattern in reading, while encountering the words in meaningful contexts.

Moreover, reading on an appropriate level expands vocabulary and the child will have less difficulty spelling words whose meaning he is familiar with.

On the other hand, some researchers believe there is little evidence to suggest that spelling instruction promotes growth in reading (Russell, 1946, p. 37; Gilbert and Gilbert, 1944, p. 23). They claim that reading and spelling are opposite processes, that the steps in the spelling process are opposite to the steps in the oral reading process. According to them, the impression requires a longer period of time to see the word for spelling, with greater visual memory and discrimination required for spelling than reading (Anderson, 1972, p. 463). Smith (1973, p. 117) believes that the better the child reads, the less he will learn about spelling. Fitzgerald's study (1951) is cited as another example of the limited effect reading contributes towards spelling ability. In his study he showed that sixty-three percent of the two hundred and twenty-two most frequently misspelled words are among the thousand words of highest frequency in reading.

Efforts to teach spelling through reading interfere with the thought-getting process while making the reader focus on letters in words rather than on the meaning of words (Russell, as quoted by Van Allen, 1976, p. 241). Gilbert and Gilbert in 1944 photographed eye movements of students while they were reading materials containing key spelling words and found many fixations during the eye movements. This, they claim, may affect comprehension.

In conclusion, there is disagreement over the extent to which the spelling and reading language arts are related. To a certain extent spelling skills must be developed independently from the reading skills.

This is necessary because often the spelling and reading skills required
are not identical - the emphasis placed upon particular skills in these
language arts may also differ. The teacher must be aware of the extent
to which spelling and reading skills reinforce and supplement one another.
She must also note the degree to which they differ and provide the
appropriate exercises so that all - rounded spelling and reading programs
are developed.

Spelling and Writing

As already discussed in the integrated spelling-writing approach,
spelling aids written communication through the clarification of correct
symbols that it provides. The probability of the writer's message being
read is greatly increased through the use of correct spelling. This
immediate feedback from the reader provides the writer with incentive to
continue communication through this mode with increased effort to use the
correct graphic options.

Written practice in turn helps strengthen the visual impression
of words. Through the haptical senses, the spelling patterns and
irregular relationships are strengthened and reinforced. For some pupils,
this additional learning through the muscles provides the needed exercises
to complete a weak impression of words.

Through meaningful written activities, the learner is continuously
relearning already established sound patterns and spelling patterns.
Gradually, some of these patterns and perhaps entire words will become
automatic responses - no longer requiring thinking, rechanneling, or the
use of a dictionary.

Summary

Spelling comprises an essential portion of the language arts and is continuously reinforcing these language arts since skills taught in spelling are needed in the other areas of the language curriculum. In a similar manner, each language art has been seen to reinforce and supplement spelling.

A. EVALUATION AND REMEDIATION

Introduction

Evaluation is an important part of every subject area, the spelling curriculum being no exception. Spelling evaluation provides a means whereby the learner's knowledge of words, techniques and ability to communicate through the written mode is assessed. As a result of evaluation, instruction is adapted to the learner's needs.

When correcting the spelling words, the whole word is usually marked as either correct or incorrect. However, while the counting of errors is important, evaluation procedures also extend beyond this. There must be an instructional rather than evaluative aspect of spelling tests. The child must be given encouragement for his attempted spellings in order that teacher and child can examine those word parts which caused difficulty. This involves evaluating the child's progress in techniques. If, as Personke and Yee (1967:768) claim, misspellings are not original, spontaneously generated creations but are misapplied earlier learnings, then the extent to which the child has misapplied the techniques must be evaluated.

Furthermore, these techniques of spelling must not be evaluated solely in relation with isolated spelling lists. Rather, the spelling program should be evaluated in terms of the writing program, with the teacher determining how well the child has carried over the techniques of spelling into writing. In such a manner, the teacher reacts to the child's spelling as communication rather than as a collection of errors.

Evaluation recognizes and encourages individual differences.

Vandermeulen (1976:198) claims that in any given class, only one-quarter of the students need corrective spelling at the basic levels. Burns and Broman (1975:387) advise that if the child can spell ninety percent or more of the month's semester word list, he can be excused from formal spelling instruction. Hillerich holds that if the child consistently misspells more than fifty percent of the words on a pretest, then his list is too difficult for him (Hillerich, 1976:122).

So too, a child can score differently for specific spelling skills. As we are already aware, inefficient spelling skills do not occur in isolation, since a child can have varying spelling disorders prior to being promoted from one grade to another.

Just as there is no one "technique for all", neither is there a "panacea" method for remediation and prevention of common spelling quandry (Smith, 1972:422). Successful remediation must be based upon flexible use of a wide variety of techniques and methods. Because certain kinds of spelling errors imply differentiated kinds of correctional procedures, all aspects of the spelling process will be evaluated in this chapter, with suggestions made for remediation. The second section of this chapter will present what research has to say concerning the varied methods of evaluation.

In summary, it can be seen that testing in spelling is done to guide learning, while recognizing individual differences and the placement of spelling within the language arts program. However, a great deal still needs to be done in spelling diagnosis and in preparing remedial materials based on the individual's misspelling tendencies.

Factors to Evaluate

Stephen Leacock, the Canadian humorist once said that "People look on spelling as one of the troubles of childhood...". Since spelling still is a trouble, both for the child and adult, the causes are of interest (Russell, 1955:129).

a. Verbal ability - Verbal difficulty contributes to poor spelling. Richmond (1960:19) states that the most common errors made in primary grades are due to mispronunciations and dialectal differences. This is seen when the child spells 'pospone' for 'postpone' or when he confuses words similar in sound (e.g.: 'were' for 'where').

The child should hear the correct pronunciations of words if he is to articulate and pronounce all the words studied. This is especially important for low ability students who will often need much practice in discriminating between sounds in words. Ability to pronounce words correctly can be checked informally through teacher observation or by having the child read a list of words or a selection while the teacher listens.

There are no definite solutions to the problems of teaching children with dialectal differences. Most spelling programs often ignore these differences (Smith, Goodman, Meredith, 1970:64). Spelling materials should conflict as little as possible with the child's phonological and syntactical system. The child is helped to adapt his personal pronunciation and to "conform" to standard spelling (Van Allen, 1976:305).

b. Visual ability - It is generally agreed that children do not have an adequate skill of visualization, although they do have the basic visual abilities (Hendrickson, 1967:40).

They have visual acuity (for example, they can see plainly the

letters u and n) but they may not be able to discriminate between them.

Quite often the child does not have sufficient visual information about spelling patterns. This results in an incomplete or incorrect visual representation of the word in his memory (Betts, 1973:138). Such visual information is insufficient to rule out phonetically correct although erroneous spellings (Personke and Yee, 1966:281).

Improper visual abilities can be prevented or treated earlier in childhood so that the child can process more information through the visual receptors. Programs and methods for strengthening and reinforcing visual imagery need to be developed and researched. Visual memory can be evaluated through testing the child's knowledge of the letters not arranged in alphabetical order. Informally, the teacher notes whether the child can write his name or a few frequently used words from memory.

Remediation would be in the form of games designed to develop visual recall. Diagramming or outlining the shape of the configuration has also been suggested as aids for remedial students (Wheeler and Wheeler, 1955:310).

c. Auditory ability - The child must be able to hear the phonemes in words and to associate the graphemes with them. He should be also capable of hearing the syllables in words and holding them in his memory long enough to associate their correct letter sequences.

Inability to hear and distinguish the phonemes and syllables in words profoundly lowers the individual's spelling ability. Therefore, the teacher must be aware of this important spelling variable and plan evaluation and remediation exercises for auditory ability.

Informal evaluation exercises would consist simply of listening to the child and noting whether he mispronounces words, or substitutes

letters. Such inconsistencies could also be detected in the child's written work. Evaluation exercises may include having the child repeat words spoken by his teacher, or noting certain characteristics about words (whether they are the same or different, are rhyming pairs, etc.). However, again the teacher is warned of the effects of diagnosing too quickly, for the spelling errors could be attempts to spell phonetically rather than defects in auditory ability.

Remedial exercises could consist of listening for the phonemes in initial, medial or final positions and encouraging the child to supply the correct spelling patterns. Practice with rhyming words and similarly pronounced words would also help improve the auditory sense.

    d. _Haptical ability_ - Handwriting plays a crucial part in the development of spelling ability. It serves to reinforce the visual impression of words learned. Handwriting helps develop motor imagery as the child remembers how the word "felt" when it was previously written.

Handwriting must be evaluated for its legibility. Dallman, (1971:210) advises that words not written legibly should be counted wrong. Legibility can be informally tested through the teacher's writing a few short sentences on the board that the child is able to read. The child must then copy them legibly with only a few errors of omissions, substitutions, and repetitions. Again, remedial exercises would consist of plenty of opportunities to learn the correct formation of letters and words, with proper slant.

Quite often, mastery of words depends on the extent to which the child can write the words correctly and with reasonable speed. Slowness in writing may be regarded as a possible cause of spelling errors, since it hinders the sound pattern-spelling pattern relationship. The child

who has difficulty producing letters will probably have forgotten these spelling patterns during his long interval of recalling and reproducing the letters.

Ability to write with reasonable speed can be readily detected through actual observation of the child engaged in writing. The slow writer is that student who is unable to keep up with the rest of the class on list evaluation exercises, or the student who seems to have little interest in using the written mode of communication. Through evaluation, it will be determined whether the child's slowness in spelling is caused by inability to recall the letters or inability to produce the letters correctly.

If the student's difficulty lies in recalling the graphemes or spelling patterns, remedial exercises would include much practice in relearning the letters of the alphabet and in associating the appropriate spelling patterns for these relationships.

Difficulty in producing the letters correctly may be overcome through repeated practice in forming the letters. This activity is further extended to include opportunities for writing entire words and finally sentences - the essence of communication.

Fernald, Gillingham and Montessori have proposed multisensory techniques as means of spelling remediation. These techniques are the basis of the "Cover-Write" method. The learner is exposed to a word shown on individual cards, on sandpaper or other material. He learns to see and feel the word through the following repeated experience of:

(a) keeping two fingers in contact with the writing (index and second finger, fingers kept stiff)

(b) saying the word

(c) saying each part without distortion on the initial stroke of each syllable as it is traced

(d) crossing t's and dotting i's from left to right

(e) saying each syllable as each syllable is underlined

(f) saying the word

(g) repeating steps (a) through (f) until the child is ready to do it himself (Fernald, 1943:106).

Harold and Harriet Blau (1960) have proposed a multisensory approach based on the assumption that the visual modality may be interfering with the auditory and haptical modalities. Visual stimuli is therefore not included in the initial stages of remediation. According to this approach, the teacher traces a word on the child's back, spelling it aloud as she does so. While she is doing this the child (blindfolded) uses his fingertips to trace the three-dimensional lettered word placed in front of him.

e. <u>Intelligence</u> - In 1926, Gates used spelling as an index of intelligence and it is still being so used today. Society has placed high value on one's ability to use correct spelling, often determining job placement on the basis of precision in spelling. However, research does not supply a complete answer as to the importance of intelligence in learning to spell.

Many educators emphasize the positive relationship between scores on intelligence tests and spelling ability (Gates, 1922; Oswalt, 1962; and Smith, 1972:429). Smith noted, the prevalent correlation between slow learners and inadequate spelling vocabularies. He found that those children who have difficulty grasping subject matter content also encounter failure. So too, Spache (Furness, 1956:508) detected a

tendency for this relationship between intelligence and spelling to increase with grade placement, with the higher the student's grade placement in school, the higher his spelling scores on graded material.

However, other researchers concluded that there is only a modest relation between intelligence and spelling ability (Hillerich, 1976:71; Russell, 1943:276; Warren, 1969; and Vandermeulen, 1976:198). They pointed out the intelligent child who also had difficulty spelling. Ability to spell, they claimed, is a skill independent of one's intelligence quotient. Other school subjects were found more highly related to intelligence than spelling. For instance, word meaning (vocabulary knowledge) and not intelligence was found to be a more significant determiner of spelling success, especially in the elementary grades (Spache, 1941:486; Richmond, 1960:19; and Peake, 1940:192). Before dismissing intelligence as a significant variable in spelling success, it must be realized that the intelligence quotient is the result of many capabilities, one of which is vocabulary knowledge. Therefore, it would seem that the proponents of vocabulary knowledge, rather than omitting intelligence altogether as a factor predictive of spelling success, should have more fully specified vocabulary knowledge as one particular aspect of intelligence.

Intelligence may be evaluated through various intelligence tests, including the following:

- Wechsler Intelligence Scale for Children (WISC)

- Stanford-Binet Intelligence Scale

- Lorge-Thorndike Intelligence Tests

If, as already discussed, vocabulary knowledge is a crucial determiner of spelling success, opportunities must be provided for the

development of word meaning. These would include receptive and expressive experiences, such as listening to stories, songs, reading, discussing and writing.

f. Attitudes and Motivation — The student's attitudes towards spelling determines his degree of motivation to spell correctly. While the importance of proper spelling is not to be dismissed lightly, all is of little importance if the student, himself, does not realize the need for proper spelling.

Many informal opportunities to note the child's attitudes are available to the classroom teacher. These include such times as when she notices how the child responds when spelling period is announced. Avoidance, carelessness and reluctance is detected. Pride is noted when the child attends to graphemes and notices likenesses and differences in words. The extent of a child's spelling consciousness is witnessed in his transfer of spelling to new situations, and in his desire to proof-read all written work — in the extent to which he consults a dictionary or other source as a normal part of learning independently (Personke and Knight, 1967:769; Oswalt, 1962:23).

Activities to build positive attitudes and motivation to spell must be engaged in. The teacher has to adjust the spelling materials to suit the child's needs thus making the spelling activities more interest-ing and enjoyable. Through teacher planning in this area, negative attitudes resulting from difficulties and discouragements will be replaced.

g. Effective study method — The individual's poor method of learning to spell has been proposed as the main cause of poor spelling (Fergus, 1964:5). The need for a consistent study method has been stressed by Russell (1955:132).

Many study methods have been proposed, but basically they consist of:

1) examining the word to be learned, noting the correct pronunciation, spelling patterns, irregularities

2) learning the word - in some cases, merely following the first step will be sufficient to master a word, thus making this step unnecessary. If the child does move on to this step, he will utilize the different techniques of learning to spell

3) oral recall - at this step in the study method, the learner attempts oral recall while not looking at the word, with eyes closed, etc.

4) checking oral recall with relearning if necessary - here the child refers to the actual copy of the word to check his oral attempt. Errors are noted and particular attention is paid to the difficult spots.

5) written recall - when the word is removed from sight, the child attempts written recall of it

6) checking written recall with relearning if necessary - having written the word, the learner checks his reproduction, and notes any inconsistencies. Points of error are examined, with the child resorting to more appropriate learning techniques if necessary.

Once the child is shown the systematic manner in which to study words, the necessity of correct pronunciation, of constant recalling and rechecking, it is then his decision concerning which skills to use in order to master the particular words. For this reason, self-study methods are said to be a product of the different techniques of learning to spell, taught the child by his teacher. The learner takes from the different methods that which is of value to himself. There is not one

satisfactory technique of independent word study for all children, but there is one satisfactory technique for each child (Gilstrap, 1962:483). There is a great need for individualization of study methods (Manolakes, 1973:247) and much assistance is needed from the teacher to devise efficient, systematic techniques to study unknown words suited to the individual's needs. The learner will decide whether in a given situation he should use phonetics, linguistics, syllabication, drill or just note the hard spots for each particular word learned. This becomes the ultimate goal of all the teacher's methods of instruction - to create an independent learner who has an effective self-study method.

In order to evaluate the child's study methods, the teacher must note whether the child can learn the spelling words easily while remembering and applying the systematic study steps. She does not evaluate sheer memorization of the study steps but the extent to which the appropriate cognitive structures are learned so that subsequent learning and retention will be facilitated (Ausubel, et al., 1968:186).

This study method is affected by many factors which must be assessed, such as whether the child pays attention at teaching time, if he makes good use of his study period, and the extent to which he proofreads all his written work, reviews words and studies words missed on trial spellings.

For the child who has not acquired an effective self-study method, much time must be spent in reteaching spelling techniques and methods of study until the child gradually learns to adjust his techniques of study to suit his particular words.

The teacher must also evaluate the spelling materials used as factors affecting the child's study methods. Spelling materials provide

the general framework for spelling instruction, and when evaluating the spelling materials as contributing towards spelling success, the teacher must examine many aspects of these materials.

The teacher has to determine whether the spelling materials are attractive for both her and the particular age range of children which the materials will serve. It has been found that the teacher's attitudes towards the spelling materials greatly affect the amount of learning which occurs. Both she and the students should find the materials interesting to use and easy to follow.

Spelling materials have to be examined for the meaningfulness of the exercises used. Meaningful exercises are those containing list words which are sequenced properly, are commonly needed for writing and are within the child's reading ability. An appropriate level for the child is one at which he can spell sixty-to ninety percent of the words on a pretest (Hillerich, 1976:122). This of course demands providing for individual differences.

Individual differences should be provided for within the spelling materials through the multi-sensory learning experiences (Fitzgerald, 1952:95, Furnes, 1968:270 and Kuhn and Schroeder, 1971:865).

The teacher also evaluates the degree to which the spelling materials provide for the many aspects of a spelling program – for instance, inductive learning, phonetics, linguistics, written activities, and dictionary skills.

Remedial exercises could involve choosing more interesting spelling materials than those currently used or supplementing ones in use. Individual differences may need to be provided for through more appropriate and varied word lists and techniques. The teacher must

determine, for instance, whether the number of words needs to be reduced. Expecting the child to master too many words at one time will only hinder good study habits and proper attitudes. Pupils who need corrective treatment are taught only the most worthwhile and necessary words (Burns, Broman, Lowe, 1971:319; Brueckner and Bond, 1955:373). (Horn's One Hundred Words (1926) account for sixty-five percent of the running words written by adults. Kyte and Neel's core vocabulary (1953:29-34) would assure better performance by mentally retarded children than would an attempt to master three thousand to four thousand words.)

Effective study methods are, in essence, the ultimate goal of every spelling program. Once acquired, they provide the mean of gaining independence in learning whereby the learner comes to rely more upon his own resources. As has been discussed, study methods vary from word to word and from individual to individual. However, all effective study methods are the result of a well-planned spelling curriculum, reflecting the learner's physical, psychological and pedagogical needs. One pedagogical need which significantly determines the success of study methods is the calibre of spelling materials used, since they provide the basis for spelling instruction.

B. TYPES OF SPELLING TESTS

Introduction

Informal and formal means can be used to assess spelling progress. Through use of both types of testing, a more accurate estimate of spelling progress can be obtained. Each form of testing will be discussed in the remainder of this chapter with some insights presented into the advantages and drawbacks of each means of testing.

Informal Spelling Tests

Many educators are of the opinion that the most useful means for measuring spelling achievement are informal tests by classroom teachers. These tests, they claim, are easily administered and scored in the regular classroom setting. Several informal diagnostic tests have been proposed only differing on the number of words tested. For instance, Watson's informal diagnostic tests (Lerner, 1971:198) consists of a list of thirty to thirty-five words from the child's grade level, omitting words not known by sight. Brueckner and Bond's informal test (1955:370) determines spelling ability through analysis of pupils' attitudes towards spelling. Teachers also test on spelling programs in current usage such as the Nelson or SRA programs.

All informal tests evaluate the child's method of study, his ability to use phonetics, linguistics or syllabication, and so on. By dividing the total number of misspelled words into the total number of words written, a coefficient of misspelling can be obtained to yield an estimate of spelling achievement. The resulting coefficient is then compared to the suggested grade-level norms. The teacher studies words missed, drawing conclusions as to the nature of the spelling problems and planning educational strategies to overcome the difficulties.

Teachers could devise their own informal spelling checklists similar to the following: (Burns, et al., 1971, p. 332).

Pupil	Month	Uses Dictionary Habitually	Proofreads Spelling Paper	Proofreads Other Written Work	Uses definite study Procedures

Such informal testing methods as test-study-test v.s. study-test; list testing v.s. context testing; and self-corrected test will be discussed in this section along with the controversy surrounding these methods of evaluation.

a. _Test-Study-Test v.s. Study-Test_ - There has been a certain amount of disagreement as to whether the informal test-study-test method of evaluation should be employed or whether it is more beneficial to use the study-test means of evaluation.

The importance of a test-study-test method of evaluation was recognized in 1897 by Rice. The pretesting which this method encourages gives the needed feedback as to the words which the child knows and those which he must relearn and because of a clearer knowledge of the task at hand, greater motivation will be fostered. Through his continuous feedback of spelling progress, greater learner responsibility, pupil decision-making and progress at an individual pace is fostered. The test-study-test method is encouraged by Yee (1969:90) who, in his experiment of one hundred and six elementary student teachers, concluded that careful diagnosis of individual needs should precede the introduction of word analysis on all levels. So too, Sherwin (1970:7) found this method superior to relying on rules, hard spots and syllabication.

The test-study-test method saves valuable teacher time, since words already mastered do not have to be retaught. Christine and Holliggsworth (1966:566) found that those who followed the test-study plan performed ninety-four percent as well in half the time as those who followed the study-test method.

However, it is the quality of the test-study-test method which will determine its effectiveness. If the goal, for example, is fluency

in written language, it is more effective if a portion of the words are introduced daily followed with daily testing rather than weekly testing which all too often merely develops short-term memory (Reith, et.al., 1974:77; and Rudman, 1973:602).

Despite the consensus of agreement on the importance of pre-testing, educators have questioned the optimal time to begin this pretesting. Fitzgerald and Horn (1960:176) for example, support a pretest method for the early grades, with the exception of the slower students. Gates in 1931 did not find the test-study plan to produce significant results for second and third graders. Allred (1977:25) also recommended a test-study-test approach for the intermediate grades and beyond, and a preview test-study-test approach for the primary grades.

On the other hand, some educators warn against using the test-study approach, claiming that the achievement gap between the bright and slow children becomes larger and widens even more at the third and fourth grade levels (Burrows, 1972:248). Dallman (1971:199) discusses the possibility of students becoming discouraged in studying a list of words if they have failed the pretest.

Another limitation is suggested by Kuhn (1971:865-9), who emphasizes the limited amount of time available for developing word comprehension and written syntax since a great deal of the spelling period would probably be devoted towards the actual testing.

When using the test-study approach, Russell (1943:276-83); and Dallman (1971:199) says there should be several tests on each lesson, because some students might have been unsure and merely guessed correctly. Indeed, relearning must not be overlooked, for just because a child can spell a single word correctly does not mean that he has a true ability to

spell that word.

Thus, it can be concluded that the test-study-test approach offers much in the way of evaluation. It has been seen to save valuable time and encourages individual differences with greater learner responsibility. However, teachers are cautioned concerning the widened achievement gap and pupil discouragement which some educators see resulting from this particular means of testing.

b. List Testing v.s. Context Testing - Regardless of whether the test-study-test or study-test method of evaluation is used, most educators would agree that the testing should be of a list format rather than through written context (McKee, 1927, as quoted by Allred, 1977:22; and Horn, 1952:265). In the following pages, however, it will be seen that probably the best method consists of the test-study-test method supplemented with oral context.

The list method saves time while focusing specific attention upon each and every word (Fitzgerald, 1952:95). Testing through context has been claimed a waste of time since the learner's attention is diverted from the specific spelling words (Petty, 1966:8; Wallace, 1972:1223; and Sherwin, 1970:). Spelling requires total concentration, and such concentration is lowered as the learner attempts to reproduce an entire sentence.

Funk, 1972:288, and Kustaz, 1977:6 suggest including some dictation exercise in every spelling test since it is an excellent total language arts activity involving listening, speaking, handwriting and composition skills. Through context an opportunity is given to focus on the mechanics taught. Pupils review many words this way and since the possibility of memorization is lessened, this added context exercise

creates a better indicator of spelling ability. Another alternative has been recommended in the form of a list method plus an oral context method in which the student hears the list words used in sentences with the student being expected to write only the spelling words, not the entire sentence (Allred, 1977:22; Wallace, et al., 1972:1224-27).

In conclusion, it seems that the teacher should experiment with testing through the use of list words, supplemented with dictation exercises, for a combination of both may prove most beneficial.

c. _Self-Corrected Test_ — In 1947, Ernest Horn (Hillerich, 1977: 303) was advocating not only the need for pretesting but also the need for it to be followed immediately with correction by the child himself and this in turn followed with further study. Self-correction is a proven aid in learning to spell and has been claimed to be the most important factor in spelling programs (Yee, 1966:279; Hibler and Montgomery, 1956). As much as eighty-five percent of the learning which takes place in spelling occurs during the self-correction process (Hinrichs, 1975:251). Horn (1947:285) found the self-correction test given to two hundred sixty-six grade six pupils in schools to contribute ninety to ninety-five percent of the achievement.

Self-correction enables the child to retain the correct spelling of words learned. His degree of concentration is maximized during this process as he discovers the effectiveness of his study method(s). While correcting, he is remembering (and relearning) the rules and spelling patterns. He notes which words are difficult for him and finds his own "hard spots" within the words.

The corrected test procedure is a multi-sensory approach (Foran, as quoted by Gibson, 1953:416) and when correcting, the correct spelling

could be given both orally and visually by the teacher: that is, the child checks the spelling of each word as the teacher presents it orally on a letter-by-letter basis with opportunity for the child to check his spelling against the list (Burrows, Monson and Stauffer, 1972:225). Thus the child uses his auditory and visual sense in getting a perception of the correct spelling.

The self-corrected test gives the child an individual and personal progress check, one which is not a comparative or competitive record.

Teachers should allow the child to correct his own spelling as much as possible thus providing him with immediate reinforcement concerning his progress. Through self-correction, the learner becomes more fully aware of the success of his spelling techniques since he is relearning and rechanneling spelling patterns while the inconsistent pattern is still fresh in his memory.

Formal Spelling Tests

Educators have claimed that there is much variety among formal spelling tests, since they evaluate different skills. While most formal spelling tests are subtests of achievement test batteries, Greene and Petty, 1976:426), for instance, believe these are the best spelling tests. These tests can be used to compare the spelling achievements of classrooms. They include the following:

Subtests

Iowa Test of Basic Skills - 1955-1956; spelling evaluated within subtest of language skills; spelling ability determined on basis of locating spelling errors.

Metropolitan Achievement Test - 1970 edition successor to 1958 edition; contains primary to advanced levels; primary level begins at 2.5;

2 forms of the Primary test and 3 forms of the Elementary, Intermediate and Advanced tests; all forms at given level are comparable in difficulty; spelling ability determined on basis of reproducing a list of 30-40 words, dictated in oral context.

Stanford Achievement Test - 1965-1966; grades 9-12; English and Spelling subtests combined; spelling ability determined on basis of ability to locate misspelled words in 60 questions.

Wide Range Achievement Test — 1940-1965; ages 5-12 and over; contains two levels; testee writes dictated words, given in oral contest, until a 'ceiling point' is reached; Diagnostic Spelling Test - modification of Wide Range-Achievement Test Level 2; may be used along with regular subtest of Wide Range Achievement Test.

Essentials of English Test - 1938-1961; grades 7-13; spelling subtest consists of identifying misspelled words and spelling them correctly from a list of 25 words.

Standardized Spelling Tests

Ayer Standardized Spelling Test - 1950; grades 9-12; consists of 2 comparable forms, each containing 30 words; each word is pronounced and used in oral context; testee writes the spelling words in the blanks in test sentences.

Correct Spelling - 1967; grades 10-13; determines cognition of symbolic units and clerical aptitudes.

Gates-Russell Spelling Diagnostic Test - 1937-1940; grades 2-6; should only be used after the teacher has done informal observation and testing, used with cases of extreme spelling retardation; consists of 9 tests.

1) spelling words orally   6) word reversals

2) word pronunciation   7) spelling attack

3) giving letters for sounds   8) auditory discrimination

4) spelling one syllable   9) visual-auditory-kinesthetic

5) spelling two syllables   and combined study method

    Group Diagnostic Spelling Tests - 1958; grades 9-13.

    Kansas Spelling Tests - 1962-1963; grades 3-8.

    Kelvin Measurement of Spelling Ability - 1933; ages 7-12.

    McGraw-Hill Basic Skills System - 1970; grades 11-14; spelling
ability determined on basis of locating misspelled words in sentences
(ability to use vowel substitution, double consonants and homonyms is
determined).

    Morrison McCall's Spelling Scale - 1923; grades 2-8; contains 8
lists of 50 words each; each list equal in difficulty, words ranging in
difficulty from primary to junior high; tester pronounces list words and
uses them in context of oral sentences.

    New Iowa Spelling Scale - 1954; grades 2-8; consists of 5,507
words of high social value, most commonly used by adults and children
in written communication; difficulty values of words given by grades;
teacher compiles tests from these words.

    Phonovisual Diagnostic Test - 1949-1958; grades 3-12; spelling
ability determined on ability to write 20 words from dictation; tests
awareness of consonants, digraphs, initial blends, and vowel sounds.

    Sanders-Fletcher Spelling Test - 1962-1964; grades 9-13; consists
of 3 categories: 1) correct spellings are marked + and misspellings are
marked -; 2) correct word is selected from 2 words in sentence;
3) misspelled word is selected from 5 possibilities.

Spar Spelling Test — consists of banks of words; tester selects
any 10 words.

Spelling Differential Aptitude Tests — 1947-1963; grades 8-12;
spelling is tested as a subtest of language usage.

Spelling Seven-Plus Assessment — 1951; ages 7-8; spelling subtest
requires 60 minutes to administer; assistance needed in interpreting.

The Spelling Errors Test — 1948-1955; grades 2-8.

Summary

From an examination of the subtests of batteries and the
Standardized Spelling Tests, it is noted that in general, spelling
ability is determined through one of two means: 1) dictated lists or
2) "find-the-misspelled word". These two skills should be combined,
thus integrating the skills of writing and editing or proofreading.
While the skills of writing list words and editing isolated words are
essential, it must be realized that writing and editing also extend
beyond this. Other dynamic, functional, creative aspects of language
which exist when one writes must also be evaluated. Tests which simulate
more closely the activity of the pupil as he writes his own manuscript
are needed.

When choosing spelling tests, the examiner must be aware of the
need for some of the tests to be updated, as for instance Morrison McCall's
Spelling Scale published in 1923. Spelling lists must also be examined
for high social utility, level of difficulty, and adequacy of linguistic
principles.

CHAPTER 7

DISCUSSION AND RECOMMENDATIONS

The writer will present in this chapter a brief summary of
research findings on spelling procedures, practices and methods.
Recommendations which are generated from the findings will also be
made.

Discussion

a. _The spelling process_ – The spelling process reflects the
individual's sensory-motor and cognitive systems. Visual, auditory,
and haptical imagery interact with and supplement one another while the
learner organizes, codes, and stores information concerning sounds and
their symbols.

b. _Spelling readiness_ – Spelling readiness is an ongoing
maturational and learning process. Physical, psychological and pedagog-
ical factors determine the degree of an individual's readiness. Educators
agree that one of the main causes of spelling failure is an insufficient
readiness program. Therefore, the importance of continually testing for
and developing these factors is emphasized.

c. _Spelling and the language arts_ – Success in spelling is
dependent upon its integration with listening, speaking, reading and
writing. Through the language experiences of listening and speaking,
the learner's knowledge of word meanings is expanded, making it easier
for him to perceive, recognize and eventually spell words already in his
oral and meaning vocabularies. Reading and spelling reinforce one
another in the skills taught - both are based upon knowledge of the

phonological, syntactic and semantic systems. However, reading and spelling also differ: spelling is not reading backwards. The impression requires longer time and better visual memory and discrimination than is the case in reading. Writing and spelling also serve to complement one another. Writing provides a means of putting into practice and relearning the spelling skills. Spelling, in turn, helps strengthen and clarify written composition through its conformity to standard English.

   d. **Spelling techniques** – Various methods of learning spelling, including both informal and formal means have been proposed. Through exposure to the varied techniques, it is hoped the child will acquire meaningful approaches to mastering the spellings of unfamiliar words. Informal methods consist of the individualized, the discovery, and the integrated spelling-writing approaches. These three informal approaches encourage individual differences. Rather than to expect perfection of him at all stages in his written work, the child's individual spelling variations are accepted and gradually he is helped to acquire the standard spelling relations.

   Formal techniques include use of textbooks, phonetics, linguistics, syllabication, affixation, and drill. The spelling textbook was the most important resource in the educational system from colonial times down to the nineteenth century. The emphasis has shifted from the neatly compartmentalized study procedures found in most textbooks. Textbooks do not foster individualization and limit the scope of techniques and word lists. Teachers are encouraged to use several textbooks or none at all, as long as the student is supplied with appropriate word lists and appropriate word attack skills.

   Teachers seem to have over-used phonetics in the past and today

they are overly cautious when they use this method of spelling. While the relationship of sound and symbol reflects much irregularity, phonetics is a valuable aid in such skills as producing initial consonants or locating words in the dictionary.

Form analysis offers a means of learning to spell words through grouping words of similar structure. Here, the student absorbs, applies, looks for exceptions and elaborates the patterns.

Syllabication is not to be used as a major technique toward acquiring spelling proficiency but does provide a means of becoming more aware of the structural properties of a word. Through recall of syllables, the student is saved the need for some memorization. Syllabication is a difficult skill to apply, often being more applicable to reading than to spelling.

An understanding of root words and the changes produced by prefixes and suffixes greatly expands one's control over the written language. Rather than memorizing the meanings of isolated affixes, the student is given plenty of opportunities to examine words containing affixes within the context of sentences or among similarly grouped words.

Drill is usually regarded as a meaningless form of learning, having short-term storage in the brain. However, if planned and integrated into lessons, it can contribute to learning.

e. Spelling evaluation - Diagnosis is both instructional and evaluative. It provides a means of determining, through informal and formal evaluation, which spelling skills have not been mastered. Measures to develop these skills can then be undertaken.

Recommendations

From the information collected dealing with spelling procedures, practices and methods, the following recommendations are submitted:

1. A conjoint effort on the part of all teachers for a greater application of research findings to spelling instruction is needed. Through educational journals, workshops and other means, principals must make available the latest research to their teachers. In this manner the prestige of spelling as a skill will increase.

2. Teachers need to reassess their spelling procedures, practices and methods in order to arrive at a greater understanding of research findings in the area of spelling.

3. In spelling, the focus should shift to _language_ instead of _words_. Teachers must endeavor to understand more fully the structural principles underlying the orthography, since it profoundly affects their understanding of the spelling process.

4. Provision should be made for the child to learn the encoding process through actual practice in encoding; in other words, numerous experiences with written expression are needed.

5. There is the necessity of developing spelling consciousness to the highest degree possible. Teachers should provide opportunities by means of which the child becomes more word conscious, knows whether a word is correct or incorrect, and uses the dictionary properly. Educational materials which develop this skill of spelling consciousness must be devised.

6. A greater effort on the part of teachers to reinforce methods used in teaching spelling with methods used in the other language arts is needed.

7. Teachers should become more aware of the different approaches, both deductive and inductive, to teaching spelling. Methods taught should be those which most effectively help children apply their learnings to their writings, with provision made for the irregularity of English orthography. The amount of time spent on inappropriate spelling activities will be reduced.

8. Every effort should be made to individualize spelling instruction in order to meet the needs of today's youth. Spelling lists and techniques should be differentiated in terms of the needs of the group and the individuals within that group.

9. Total dependence must not be placed on phonics. A spelling curriculum should be constructed which maximizes opportunities for learners to internalize phoneme-grapheme correspondences and to discover the spelling generalizations inductively.

10. The value of rules should be assessed before they are taught. The teacher can determine which rules have the greatest potential value, which can be discovered inductively, which are likely to be misapplied. The child should not be expected to learn all the generalizations but only enough to give him a system for spelling. Exceptions should be taught along with the rules so that a more realistic concept is formed.

11. Teachers should be flexible and selective in their use of spelling textbooks, accepting only those which adequately reflect the nature of English spelling.

12. Provision must be made for more varied word lists, including high frequency, demons, individual and linguistic lists. Such words should be organized by learning levels rather than by grade levels.

13. Syllabication must not be discarded as a useless structural analysis skill but should be used with regular words.

14. Drill should be integrated into the language arts period. Rather than a formal period for rewriting, opportunities should be provided for the child to see and use the word in different situations.

15. Greater opportunities are needed in helping the child follow a systematic approach for studying words.

16. More time should be spent by teachers in evaluating the child's spelling progress. Pretesting and the pupil-corrected test procedure should become an integral part of diagnostic procedures.

17. The need for more adequate Standardized Spelling tests must be recognized.

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