

THE DEVELOPMENT OF A HANDBOOK OF INVENTED
SPELLING IN THE PRIMARY CLASSROOM

CENTRE FOR NEWFOUNDLAND STUDIES

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THE DEVELOPMENT OF A HANDBOOK
OF INVENTED SPELLING IN THE PRIMARY CLASSROOM

BY
© Andrea Marie Cook, B.A.(Ed.)

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ABSTRACT

The Department of Education of the Government of Newfoundland and Labrador, through the development of new primary language guidelines, is establishing guidelines regarding the invented spellings used by primary students in their writings. A review of the literature on invented spelling indicates the necessity of teachers understanding the developmental nature of invented spelling and knowing how to react to invented spelling when responding to children's writing.

In 1988, the researcher distributed a survey/questionnaire to primary teachers of the Avalon Consolidated School Board, Avalon North Integrated School Board, Conception Bay South Integrated School Board and the Roman Catholic School Board for St. John's. The questionnaire contained 18 questions about the respondent's knowledge of and attitude toward invented spelling. The last question asked teachers whether or not they felt a need existed for a handbook on invented spelling. Over 95% (95.69%) felt that a need existed for such a handbook.

The researcher completed a review of the literature on invented spelling and compiled a handbook with relevant information supported in the literature review. The handbook is an appendix to the thesis.

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CHAPTER ONE

THE PROBLEM

Statement of the Problem

The Department of Education of the Government of Newfoundland and Labrador, through new primary language guidelines, is establishing guidelines for the use of invented spellings by primary grade students in their writings. The new curriculum guide gives very brief information about this well researched and documented area. A number of primary teachers, through a pilot survey conducted by the researcher, have indicated a need for more information about invented spelling. Thus, the specific focus of this research will be the development of a handbook for the implementation of invented spelling in the primary classroom.

Purpose of the Study

Rationale for the Study

Within a classroom context, reading and writing have been persistently separated during instruction (Holdaway, 1984), and perceived as two distinct sets of skills (Britton, 1984). With the current emphasis on whole language, reading and writing

are not isolated from each other, but used together functionally and purposefully as language is kept "natural" or whole (Goodman, 1986). Whole language should be relevant to the learner and focus on meaning, not the language itself (Goodman, 1986). Goodman suggests that to control oral and written language, two parallel language processes, one must control the rules of language, and those must be invented (i.e., generated) and tried out by the learner. Children show that they are seeking control of writing when they go about composing (Graves, 1982).

Spelling, as a component of writing, has also moved away from abstract pieces, word lists and memorization, to being viewed, like learning to speak and read, as a language-based activity (Beers, 1980). A natural approach for children to learn to write is through their invented spellings (Graves, in Walshe, 1982). There is a variety of literature available to the classroom teacher who wishes information on invented spelling. It is the purpose of this research to review the literature on invented spelling and to incorporate relevant theory and research in the design of a handbook appropriate for use by teachers in the primary grades.

Significance of the Study

Primary children are now being encouraged to write in Kindergarten and Grades One, Two and Three, before they have

learned the "correct" spelling for the words they use in their writings. Teachers are being exposed to many "invented spellings" by young children who are attempting to use their best judgements about accurate spelling of words which express their ideas (Lutz, 1986). Such spelling approximations, which had little significance other than being incorrect, took on a new dimension when Read (1971) found several systematic patterns in preschool children's spelling errors. Teachers must now deal with these errors from a new perspective.

In the 1990-91 school year, the Department of Education of the Government of Newfoundland and Labrador will introduce a new Primary Language Guide. The advanced edition of this guide, entitled Experiencing Language: Primary Language Guide Highlights (1988), states that "written communication--writing and reading--can only develop in a rich, literate environment in which writing and reading are permitted and encouraged to occur" (p. 45). Teachers are instructed to "permit invented spellings" (p. 62) to give children the opportunity to write independently much earlier in school and to allow them to learn to spell by spelling. The guide provides approximately three pages, with few examples, to explain the theory and developmental levels of invented spelling, which have been the focus of a great deal of research (Beers, 1980; Gentry, 1981, 1982, 1984, 1987; Gentry and Henderson, 1978; Read, 1971, 1975, 1986).

Since the Department of Education advocates invented

spelling in primary classrooms, teachers will need to understand the stages and strategies, "to be aware of various features that appear at different stages in the children's progress" (Chomsky, 1971b, p. 513). The Primary Language Guide does not give clear guidelines on how to utilize invented spellings to assess a child's growth in his/her understanding of print. The logical misspellings made by children can be very informative about "children and their learning needs, and most of all it shows what children know and can make sense of. If we understand this, we can better help our students to become better writers, focusing on the relevant and the important" (Edwards, 1935, p. 14).

Classroom teachers need to know what to do with a child's invented spelling. They need to understand the developmental process that a child goes through in learning to spell, as outlined by Gentry (1987, 1982). They need further guidance to answer any questions they may have about children's invented spellings. In a pilot survey questionnaire conducted by this researcher, 95.5% of primary teachers in four Avalon Peninsula school boards feel that a need exists for a handbook which addresses these needs.

Definition of Terms

The following terms to be utilized throughout this research are as follows:

Curriculum Guide: This is defined as the primary language curriculum guidebook Experiencing Language: Primary Language Guide, (Adv. Ed.) published in 1988 by the Department of Education, Government of Newfoundland and Labrador.

Handbook: This is defined as the Handbook of Invented Spelling in the Primary Classroom, the development of which is the focus of this thesis.

Invented Spelling: This is defined as "beginning writers' ability to write words by attending to their sound units and associating letters with them in a systematic, though unconventional way" (Richgels, 1987, p. 523).

Pilot Survey Questionnaire: This is defined as the survey questionnaire developed by the researcher on invented spelling and distributed in April, 1988, to four school boards on the Avalon Peninsula; Avalon Consolidated School Board, Avalon North Integrated School Board, Conception Bay South Integrated School Board, and Roman Catholic School Board for St. John's. (Appendix A)

Primary (-Children, -Classroom, -Teacher): This is defined to include Kindergarten, Grades One, Two, and Three.

Remedial/Resource Teacher: This is defined as any special education teacher as outlined in the Special Education Policy Manual (1988).

Whole Language: This is defined as an approach to teaching language which does not break whole (i.e., natural) language into abstract subsets and subskills, but keeps language whole by using it functionally and purposefully. Reading, writing, speaking and listening are taught together. This approach is based on language learning theory which indicates that language is actually learned from whole to part (Goodman, 1986). Reading and writing skills such as word identification, comprehension, vocabulary acquisition, writing mechanics and spelling are learned within the larger context.

Scope and Limitations

The handbook would be limited to the extent that it is intended for use by primary and remedial/resource teachers. Although it will be based on theory and research, and will include appropriate bibliographical information, the handbook will deal only briefly with theory since it is the intent of the researcher to provide a succinct, easily referenced guide for primary teachers. The bibliography will act as a source for those looking for more technical and theoretical background.

The handbook will be appropriate for use in those primary classrooms where invented spelling is utilized as a component of the primary language arts program.

The needs survey/questionnaire was distributed to a limited number of school boards. Therefore, the need for such a handbook cannot be generalized beyond the area surveyed.

The rate of response to the survey/questionnaire was low (i.e., less than 40% of those primary teachers included in the survey returned the forms). The length of the form and the distribution time (i.e., April, 1988, the latter part of the school year when paperwork for teachers typically increases) are factors which may have affected response rate.

The activities and approaches included in the handbook are only suggestions that do not guarantee improved spelling, writing, or reading ability.

Suggested activities in the handbook are not meant to be all-inclusive. Teachers are encouraged to search for and develop alternate activities.

CHAPTER TWO

REVIEW OF THE LITERATURE

Introduction

Invented spelling, alternately labelled spontaneous spelling (Read, 1971), developmental spelling (Gentry, 1981, 1982, 1984), or creative spelling (Read, 1986), refers to the spelling patterns resulting from different strategies employed by children at various stages of cognitive development (Gentry, 1984). Such spelling patterns are not new. Montessori observed invented spelling over seventy-five years ago in her Casa dei Bambini in the writings of preschool working-class children who had been taught the alphabet but who could not read (Walshe, 1982).

This review of the literature is organized into nine sections; language learning, writing through invented spelling, developmental strategies, stages of development, concerns about invented spelling, benefits of using invented spelling, correction, implications for teaching, and activities.

Language Learning

Traditionally, learning to spell has been regarded as a

psychomotor skill learned through memorization and drill. Such a view of spelling has downplayed its importance in the curriculum and in professional preparation of teachers. Teachers teach spelling the same way they were taught, i.e., learning lists of words for a weekly test (Hodges, 1982). "In probably no other area in the language arts is there such a discrepancy between what we know and what we teach as in spelling" (DiStefano & Hagerty, 1985, p. 373). Although teachers know that spelling is an important component of writing, they teach it as a separate subject, usually following a spelling series that dictates what words to teach the students irrespective of their language and background experiences.

Research, since the emergence of descriptive linguistics in the 50s (Hodges, 1982), has focused on how children learn language and the process they go through in learning language rather than what they need to know. Extensive research has provided important insights into the way children learn written language. One important insight indicates that growth in written language learning is best facilitated by active participation. Two characteristics of written language growth, according to Dyson (1984), are: first, children master written language as they use it, and secondly, one cannot directly teach the workings of the symbol system. According to Chomsky (1979), children must internalize and generate hypotheses about language:

Children appear to have a built-in language ability that enables them to organize the variety of linguistic inputs that come their way and to develop a rule system that accounts for what they hear. They form hypotheses about what the rules might be like and test them out by putting them to use. This process of hypothesis formation and testing appears to be a critical aspect of language learning. Tentative rules are formulated, tried out, and adjusted as more and more inputs are available from the environment (Chomsky, 1979, p. 115).

Even though schools typically view children as passive learners (Dyson, 1984), experimentation is vital to the acquisition of written language (Wiseman, 1984). Children must take an active role in imposing a structure on the environmental information they receive. They need a wide range of language inputs and environmental feedback to update their rule system until it matches the actual system of the language (Chomsky, 1979; Zutell, 1978).

Just as linguists have provided new insights into the systematic nature of English orthography, psychologists and others involved in human learning, have given new insights into the nature of learning to spell. "The picture that emerges is one of young learners who actively participate in their own learning, for whom an understanding and use of language develops over time on the basis of a biological timetable and experience" (Hodges, 1982, p. 287).

Zutell (1980) provides further support for active participation of the learner in a study which investigated the relationship between the developmental nature of children's spelling and their overall intellectual maturation in terms

of Piaget's model of cognitive development. In a study of children in Grades 1-4, he found that "efficient spelling, like operational thinking, requires a decentration away from strictly perceptual correspondences, in this case away from simply sound-letter relationships" (p. 57). He also found empirical data which supported the argument that the structures needed to deal with the English spelling system are similar to the structures that must be generated in order for a child to move out of preoperational thinking into operational thinking.

In the early 70s, Henderson, Beers, Gentry, and Zutell, a group of researchers at the University of Virginia, under the guidance of Henderson, realized that advances in thinking about oral language development would help to better understand the development of written language, including spelling (Edwards, 1985). They accepted the developmental nature of language; that children's ability to read and write improves over time as they incorporate earlier experiences into increasingly sophisticated understandings (Dyson, 1984). They based their further research on this developmental nature of language and spelling in particular (Beers, 1980; Beers & Henderson, 1977; Gentry, 1981, 1982, 1984; Zutell, 1978, 1980). This psycholinguistic perspective of developmental spelling has since been accepted in research practice as a valid approach to examining young children's writing and spelling.

The evidence from linguistic and psychological knowledge of English orthography and its acquisition suggests a number of important implications for researchers, curriculum specialists, and teachers (Hodges, 1982). They are as follows:

1. "The developmental nature of spelling ability clearly indicates that children's spelling attempts need to be considered from their frame of reference, not the frame of reference of adults" (p. 288).

2. "Efficient spellers appear to know words in many guises--visually, morphemically, phonetically, and semantically--and use the most potent information needed in determining how to spell unfamiliar words" (p. 289). Learning to spell, then, is learning about both the phonological and graphic structures of words.

3. "Learning to spell is an aspect of general language development, in this instance visual language, and both draws upon and is constrained by cognitive and linguistic factors that are inherent in general language acquisition" (p. 289).

4. "Learning to spell involves developing an understanding of the total framework of English orthography and the interrelationships among phonological, morphological, and other language factors which the orthography reflects" (p. 289). That is, a child learning to spell does not move from one aspect of the orthography to the next, i.e., from sounds and letters, to syllables, to words.

Since learning to spell is an aspect of general language development, an analogy is often made with learning to speak (Gentry, 1987; Scott, 1987). Children learn to speak by speaking and write by writing. This analogy has two shortcomings, according to Scott (1987): the teacher cannot hope to immerse the child in written language to the same extent that he is immersed in oral language; and, secondly, the standards for correctness in spelling are considerably more exacting than the standards of oral language which can tolerate alternatives in communication through rephrasing and body language.

Writing through Invented Spelling

Chomsky (1971a) maintains that children at four, five and six have enormous phonetic acuity and ability to analyze words into their component parts. This belief, substantiated by Read's (1971) study which examined the invented spelling strategies of preschool children, encouraged Chomsky to suggest that children do not need to wait until they know a great many consonants and vowels to start spelling. Rather, she maintains that children should learn to write through invented spelling before they learn to read, since by its very creative nature, writing naturally precedes reading (Chomsky, 1971b):

One of the best ways for the prereader to gain experience with alphabetic representation and with the phonetic makeup of words is through word composition, or writing words according to the way they sound. Children should

be given much more practice in writing at the start. Writing in one's own invented spellings, according to the way that words sound, is excellent experience when one is first starting to read, and many children can do this before they read. The practice that they get in attending to the sounds of words, in translating from pronunciation to print, and in the principles of alphabetic orthography are invaluable (Chomsky, 1979, p. 121).

Chomsky goes on to say that children, when they start to read, are already practiced and experienced in many aspects of dealing with print.

Other researchers support the value of writing in learning to read. According to Haley-James (1982), writing is a practical way of becoming a reader since during the process of writing, children are self-motivated and they develop basic visual scanning and memory strategies which aid in reading. They use experience-based content which frees them to focus on the symbols to use in writing. When they read what they have written, the material is familiar and relevant. Their understanding of the writing/reading relationship is also strengthened when someone else reads their work (Haley-James, 1982). Writing allows children to see the obvious interrelationships among reading, writing, listening, and speaking and to use what they learn from one aspect of the language arts to explore and develop the other (Strickland, 1989). Their efforts at written expression provide evidence of the direct application of that knowledge

as they consolidate and organize their literary knowledge (Shanahan, 1988).

Early writing allows the teacher to plan effective reading and spelling instruction. Teachers who encourage writing early in the school year and informally evaluate spelling throughout the year "will be in a position to adjust word recognition and spelling instruction to the needs of individual children" (Morris & Pernay, 1984, p. 455).

Invented spelling allows children to assume an active role in learning about written language, to manipulate and discover words, and to test their developing theories of English orthography (Gentry, 1978). It frees them to write without the restraint of correct spelling. The act of composing messages and words becomes the exploration.

Should all beginning writers be encouraged to use invented spelling? Temple, Nathan, and Burris (1982) feel that "children will learn to spell correctly and to write fluently if they are encouraged--but not forced-- to express themselves in writing as soon as they feel the urge, and as best they can" (p. 82).

When to Begin

There are several prerequisites to beginning invented spelling. According to Chomsky (1979), children have to know the letters of the alphabet, that letters are used to

represent sounds, and that words are made of sounds which need to be separated into distinct parts. Hauser (1982) suggests that children need to master most of the consonant sounds to write. Graves (1982) suggests that a knowledge of about any six letters of the alphabet and their letter sounds is sufficient. Graves is supported by Richgels (1986), whose study suggests that children can invent their own spelling system without being extremely consciously aware of letter/sound correspondences, although alphabet knowledge is helpful.

Although one of Chomsky's prerequisites to invented spelling is that children be able to separate words into their component sounds, Templeton (1980) suggests that at an implicit level children are able to deal with symbols (i.e., letters) before they learn to read and to handle phonemic segmentation. This suggests, he says, that children should be given opportunities to manipulate elements of word structure implicitly before they receive formal instruction in phonemic segmentation and word analysis.

A child does not have to be able to read before using invented spelling (Chomsky, 1971a; Shanrahan, 1988). Although the introduction of writing has often been postponed until children have learned much about reading, it is not necessary to wait for reading ability development to encourage children to write (Shanrahan, 1988). Children can be successful writers with very little knowledge of reading.

Therefore, "it seems logical and important to introduce writing at an early stage as a natural part of the developmental process of language learning" (Dobson, 1985, p. 30).

Clay (1977) and Haley-James (1982) emphasize cognitive understandings about writing itself that children must have in order to write. "When a child realizes that the messages we speak can be written down he has grasped the main concept required for reading and writing progress" (Clay, 1977, p. 337). Haley-James agrees with Clay. She outlines four observations about when children can learn to write:

1. "Children can write when they show that they understand what language does" (p. 459). Children's informal preschool exposure to printed language experiences prepares them for writing. Children lacking such experiences probably will not be ready to write when they come to school. Clay (in Haley-James, 1982) notes that somewhere between three and five years of age most children become aware that people make marks on paper purposefully.

2. "Children can write when they show an interest in writing" (p. 460). This usually follows when children discover what writing does, in environments in which people write and show interest in others' writing, and do not have unreasonable expectations about correct spelling, punctuation and capitalization skills.

3. "Children can write when they feel a drive to

communicate with others through writing" (p. 461). Teachers who want students to learn to write provide them with an audience of real listeners and readers.

4. "Children can write when they understand that written symbols represent meaning" (p. 461). This observation is implicit in the first three.

Haley-James' second observation suggests that children need to show an interest in writing in order to begin invented spelling. This prerequisite may be unnecessary since, according to Graves (1982), it is natural for children to want to write. "Children have much to say.... Their writings reflect the vigor and spontaneity with which they react to the world around them" (Hauser, 1982, p. 682).

Developmental Strategies

Read, considered a pioneer in the study of young children's early spelling development (Morris & Pernay, 1984), approached the invented spellings from the linguist's view to see what they would reveal about the children's categorization of speech sounds in English. His findings from an analysis of the invented spellings of twenty preschool children, aged three and a half to five, indicated that preschoolers systematically applied tacit phonological knowledge in their spellings; omissions or substitutions in spelling were based

on an underlying knowledge of how speech sounds are produced in the vocal tract (Morris & Pernay, 1984).

Read (1971) outlined several predictable, frequently occurring, non-standard strategies children employ in their spelling:

1. Children employ a letter-name strategy, or use of single letters to represent the sound of the full letter name. For example; NHR for "nature", LFNT for "elephant", PPL for "people" (Wood, 1982).

2. Children select vowels according to an analysis of their similarity in place of articulation (phonetic features) (Read, 1971). A child may make substitutions for lax (i.e., short) vowels. For example; a for e in BAT for "bet". He may omit vowels when the syllable has a vowel-like (i.e., syllabic) consonant. For example; BOTTL for "bottle" (Gentry & Henderson, 1978).

3. Children will make accurate phonetic representations of inter-vocalic flaps: they will use d to render the flap (i.e., voiced tongue tap) phoneme for t between vowels. For example; PREDE for "pretty", ADE for "eighty" (Gentry & Henderson, 1978).

4. Children will represent dr as gr or jr and tr as chr (Read, 1971). For example; JRAN for "drain", and CHRAN for "train".

5. Children will omit nasal consonants m and n which occur before consonants (Read, 1971). For example; BOP for

"bump", and GOWEG for "going".

6. Children make progressive changes in the past tense marker, from phonic accuracy to the use of d regardless of sound (Wood, 1982). For example; first PEKT, then PEKTD, then PEKD for "peeked".

Read's study was criticized by many because his subjects were the children of linguists and, consequently, did not represent the norm. Read (1971) maintains that the children were not coaxed or expected to spell and were not subjected to any unusual educational devices relevant to spelling. The parents were relaxed and nondidactic. "The one characteristic that all the parents had in common was a willingness to accept the child's own spelling efforts, to provide simple materials (first blocks and other elementary alphabet toys, then paper and pencil), and to answer questions" (Read, 1971, p. 31).

Many other researchers have seen examples of Read's features in the writings of children of nonlinguists. In his review of invented spelling research, Read (1986) noted that Fisher, in 1973, and Gerritz, in 1974, among the first to observe phonetic spellings in the first grade, found examples in their average classes to further support his findings. Paul (1976) discovered that Read's findings were also applicable to characteristics she observed in the writings of her regular kindergarten class. She examined the writings of her class and found evidence of Read's strategies in her children's spellings. She noted four stages of spelling

development which matched Read's interpretation. At the first stage, children would write the first letter or phoneme of each word or syllable (e.g., TB for "toybox"). Then they would add the final phoneme of the word or syllable, omitting short vowels. Third, they would represent short vowels by choosing some vowel letter to stand for a vowel sound. Finally, they would move toward the standard form.

Other researchers looked for evidence of Read's strategies. Beers, Beers, and Grant (1977), in their study of children in grades 1-4, found that Read's letter-name strategy was most prominent in first grade spellers. They also concluded that "the strategies evolve systematically, regardless of the geographical location of the children or the teaching they receive" (p. 238). Downing, DeStefano, Rich, and Bell (1984), in a study of children in grades 1-6 in two schools, found further evidence to support Read's letter-name strategy in grade one and persisting in some of the older children in the study. Their findings indicate the important part that logical reasoning plays in learning the skill of spelling. Many children in the study had a dislike of spelling and poor self-image of themselves as spellers, possibly as a "reaction to their perceived lack of independent control over their own destinies as spellers" (p. 196). Their study also suggests that the English spelling curriculum, teaching materials, and methods of instruction should more thoroughly incorporate the belief of cognitive psychologists

that children use their reasoning processes to construct a conception of the world that is held by adults. They conclude that spelling, as a skill, is learned intellectually and spelling instruction, therefore, should be cognitively based. They add that invented spelling should not be restricted to preschoolers since older students can be encouraged to create alternative spellings that can be discussed intelligently in the class on the basis of their growing understanding of the system of orthography (Downing, DeStefano, Rich, & Bell, 1984).

Read's work has influenced both classroom practice and research (e.g., Beers & Henderson, 1977; Chomsky, 1971a, 1971b; Clarke, 1988; Lancaster, Nelson & Morris, 1982; Paul, 1976). Morris and Pernay (1984) sum up his influence in this way:

The genius inherent in Read's work lay in his initial hypothesis that children might bring their own system or logic to the task of learning to spell. His testing of this hypothesis not only provided new insights into the early development of spelling ability but also reawakened in some educators the latent belief that they should pay very close attention to the knowledge and strategies that children bring with them to the beginning reading/writing processes (Morris & Pernay, 1984, p. 422).

Developmental Stages

In the late 70s, Henderson, Beers, Gentry, and Zutell applied Read's analytical framework to hundreds of spelling samples drawn from the creative writing and spelling lists of

first and second graders in public school classrooms (Morris & Pernay, 1984). They also found results consistent with those of Read. Beers, in 1974, hypothesized a sequence for Read's spelling strategies and developed four stages for vowel strategies (Read, 1986). In 1977, Beers and Henderson used Read's strategies to analyze the spelling errors made by 25 grade one pupils in Maryland. They found that the children went through three invariant stages as they developed spelling strategies. The first stage involved a letter-name strategy highly similar to Read's (1971) preschoolers' strategies. The second stage marked refinement in spelling vowel sounds and a move away from pure letter-name strategy to a use of letters to represent sounds other than the sound of the letter names. In the third stage, features of the orthography became evident; morphophonemic and syntactic elements were being considered part of the strategy.

Henderson, Beers, Gentry, and Zutell further contributed to the understanding of the developmental process of spelling through longitudinal and crossgrade studies. From their research they delineated three developmental stages through which children's spelling seemed to progress; the prephonetic stage, the phonetic stage, and the transitional stage (Morris & Pernay, 1984).

Prephonetic stage. After children have learned how to write some of the letters of the alphabet, they use prephonetic spellings which include the beginning consonant

and sometimes the ending consonant of one-syllable words (e.g., BD for "bed", BK for "black").

Phonetic stage. When vowels begin to appear in the spelling, the children have entered the phonetic stage, where words are "sounded out" in a linear, sound-letter matching process. Long vowels are represented with the corresponding letter name (e.g., MAL for "mail", FET for "feet"), and appropriate phonetic substitutions are given for short vowels (e.g., SEK for "stick", JRAS for "dress").

Transitional stage. By the end of the first grade, many children move into the transitional stage, in which short vowels are represented correctly (e.g., STIC for "stick") and long vowels are used, although often incorrectly (e.g., FEAT for "feet"). The transitional speller is beginning to abandon his concept of spelling as a fixed, one-to-one, sound-letter code. The search is on for patterns of letters (e.g., CVC, mat; CVVC, "tail"; CVCe, "lake"--where C=consonant, V=vowel) which actually map the sounds of the spoken language to its graphic representation.

These stages formed the basis of a progressive model of spelling development prior to correct spelling. The stages were very broad and needed much refinement. Gentry completed further extensive research on the stages of invented spelling (Gentry, 1981, 1982, 1984, 1987; Gentry & Henderson, 1978). He refined the developmental model by adjusting the characteristics of the three stages, and spreading them,

instead, over four stages preceding a fifth, correct spelling stage. Gentry labelled the first stage in his new model the deviant stage, which preceded the prephonetic stage. In later work, he renamed this stage precommunicative because of the inherent negative connotations of unnatural behaviour in the term deviant (Gentry, 1982). As well, the new term conveyed the notion that productions at this level of development were not readable. Gentry also altered the term prephonetic to semiphonetic.

Gentry maintains that young people's writing moves through five clearly defined stages, beginning as soon as a pencil or crayon is handled and scribbling occurs. This may happen as early as 18 months of age (Gentry, 1982) but is highly dependent on the child's exposure to writing opportunities. Gentry's work (1982) on the stages of learning to spell developmentally is by far the most carefully delineated of all. He compiled a thorough behaviour profile for each stage.

Precommunicative Stage

A speller is specifically precommunicative (stage one) when his/her errors are characterized by the following behaviour (Gentry, 1982):

1. The child demonstrates some alphabet knowledge through the production of letter forms to represent a message.

2. He/she demonstrates no knowledge of letter-sound correspondence. Spelling is a random grouping of letters that the child can produce.

3. He/she may not know the left-to-right directionality for English writing.

4. Number symbols may be included in the spelling of a word.

5. The speller may simply know how to make just a few letters or he/she may be capable of producing the majority of letters of the alphabet.

6. Upper case and lower case letter forms are interchangeably used.

7. Preference is given to upper case lettering in early writing.

The following are examples of spelling in this stage. The numbers in the brackets represent the characteristics of this stage outlined above.

(a) b+BpA for "monster" (1, 2, 4, 5)

(b) iylsoKnQRIPQR for "Last night was Hallowe'en." (1, 2, 6, 7)

Semiphonetic Stage

The second stage, the semiphonetic stage, represents the child's first approximations of an alphabetic orthography, in

which there is a beginning concept of the letter-sound relationship. This stage has the following characteristics:

1. The child begins to understand the letter-sound relationship; that letters have sounds that are used to represent the sounds in words.

2. The letters used represent part of the word. Often one, two, or three letters may represent the entire word.

3. The speller uses the letter-name strategy; the letter whose name approximates the sound wanted is printed.

4. Directionality has begun to be established.

5. Knowledge of the alphabet and the ability to produce letters increase.

6. Word segmentation and spacing between words, may or may not occur.

The following are examples of this stage of spelling. The numbers in brackets refer to the characteristic illustrated by the example.

(a) I sw a wsh for "I was a witch." (1, 2, 4, 6)

(b) R for "are" (2, 3)

(c) LFNT for "elephant" (1, 2, 3, 4)

Phonetic Stage

"Children's phonetic spelling is the ingenious and systematic invention of an orthographic system that completely

represents the entire sound structure of the word being spelled" (Gentry, 1982, p. 195). These third stage spellings, quite readable in comparison with the preceding stage, are characterized by the following:

1. This is the first stage in which there is a total letter-to-sound correspondence of the surface sound of the word.

2. Children develop particular spellings for tense vowels, lax vowels, preconsonantal nasals, syllabic sonorants, -ed endings, retroflex vowels, affricates and intervocalic flaps.

3. Letters are chosen on the basis of sound, without regard for any of the conventional letter sequences.

4. Generally, word segmentation and spatial orientation are evidenced at this stage.

The following are examples of this stage:

- (a) mtn for "mitten" (1)
- (b) Tam for "them" (1, 2-lax vowels)
- (c) cadey for "candy" (1, 2-preconsonantal nasal)
- (d) littl for "little" (1, 2-syllabic sonorants)
- (e) pkt for "picked" (1, 2-ed ending)
- (f) plad for "played" (1, 2-ed ending, 3)
- (g) sisr for "sister" (1, 2-retroflex vowel)
- (h) chruk for "truck" (1, 2-intervocalic flap)
- (i) crismis for "Christmas" (1, 3)

Transitional Stage

"The transitional stage, during which time great integration and differentiation of orthographic forms take place, marks a major move toward standard English orthography" (Gentry, 1982, p. 196). Gentry further explains that as the speller assimilates the alternatives for representing sounds he/she relies less on phonology and more on visual and morphological representations. This fourth stage is characterized by the following:

1. There is an awareness of conventions indicated by the presence of vowels in every syllable, nasals are represented before consonants (in contrast to the phonetic stage where they are omitted), both vowels and consonants replace the letter-name strategy, r-controlled vowels are now included, common English letter sequences are used, vowel digraphs like "ae", "ea", "ay" and "ow" appear, silent 'e' pattern is used as an alternate way to represent long vowels, and inflectional endings -s, 's, -ing, and -est are spelled conventionally.

2. Transitional spellers use a new visual strategy from phonological to morphological and visual spelling. The visual appearance of the word is assessed to see if it looks like an acceptable word in English.

3. All appropriate letters may be included, but not necessarily in the right order.

4. Transitional spellers have not fully developed the

use of such factors as graphemic environment of the unit, position in the word, stress, morpheme boundaries, and phonological influences that contribute to spelling competency.

5. Transitional spellers are aware of alternate representations for the same sound, although they do not have a good understanding of the appropriate choice at this stage.

6. There is a greater number of correctly spelled words. The following are examples of transitional spelling:

- (a) egul for "eagle" (1-a vowel in every syllable, 5)
- (b) bangk for "bank" (1-nasal present before consonant)
- (c) elefant for "elephant" (1-letter-name strategy is gone, 5)
- (d) monstur for "monster" (1-vowel is represented before syllabic "r")
- (e) younited for "united" (1-common English letter sequences are used)
- (f) tipe for "type" (1-silent "e" is alternate way of marking long vowel)
- (g) eightee for "eighty" (2-using visual strategy to assess spelling)
- (h) hte for "the" (3-letter reversal)
- (i) rane for "rain" (5-alternate spelling for the same sound)

Correct Stage

Correct spelling (stage five) is more often viewed from an instructional viewpoint than from a developmental perspective. From an instructional perspective, a child is a correct speller when he/she has mastered the body of words appropriate to his/her grade level (Gentry, 1982).

Gentry (1982) suggests that the major cognitive changes required in developing a competency in spelling are attained by the end of the transitional stage and the child simply extends existing cognitions. A developmentally correct speller has the following cognitions:

1. He/she has firmly established knowledge of the basic rules of English orthography.
2. He/she extends knowledge of word environmental constraints such as how a section of a word to be spelled is influenced by bordering letters and pronunciation stresses.
3. He/she has a good knowledge of word structure--affixes, contractions, compound words, and the ability to distinguish homonyms.
4. He/she uses silent consonants and double consonants appropriately.
5. He/she uses alternate spellings to decide when a word does not look right.
6. He/she masters uncommon patterns such as ie and ei, and irregularly spelled words.

7. He/she begins to master Latinate forms and other morphological structures.

8. He/she has a large body of learned words.

Gentry (1982) applied his developmental spelling classification to Bissex's (1980) case study. Bissex, in her book GYNS AT WRK, detailed her son's written language developments from preschool experimentation through to his later acquisition of conventional spelling and reading abilities in school. Gentry's examination found developmental stages previously discovered by himself, as well as by Henderson and Beers (1980), and Read (1975).

Richgels (1987) criticizes Gentry's precommunicative stage of spelling, in which children have no concept of letter-sound knowledge, as not being invented spelling. He maintains that invented spelling begins when the children begin to use letters in a systematic though nonconventional way to represent speech sounds. However, several other researchers have five stage developmental models that are very similar to Gentry's model. These models include the earliest stage of writing. Temple, Nathan, and Burris (1982), in outlining their levels, use the terms prephonemic, early phonemic, letter-name, transitional, and correct. Edwards (1985) uses similar terms in her research. Hers are prereading, alphabetic, phonetic, transitional, and correct.

Sowers suggests that there are only two types of development in invented spelling (Sowers, 1982b). The child's

maturity is indicated from the location of the sound spelled in a word. "The first step is writing apparently random strings of letters, then beginning sounds, then beginning and ending sounds, then beginning, middle, and ending sounds" (p. 50). The second developmental pattern occurs when the child changes his/her locus of control in spelling. Initially, the mouth dominates, and then the ears and the eyes, and finally, word knowledge.

Rate of Development

Spelling development is continuous, although the rate at which a child progresses through the stages is variable (Beers, 1980). Changes from one stage to another may occur gradually and simultaneously possess characteristics of both the previous and forthcoming stages (Hall & Hall, 1984). Studies have confirmed this sequential, yet individualistic rate of development. Beers and Henderson (1977) found, in analyzing the spelling attempts of first grade children in one classroom over a six month period, that the children seemed to proceed through the spelling pattern sequences at different rates. Some children would pass through the initial phase of a particular sequence more rapidly than others, while others appeared to skip an initial phase as though they were more advanced in spelling a specific orthographic configuration. The sequence appeared constant for most of the children in the

study. Gerber and Hall (in Gentry, 1984) reported evidence from a developmental study that spelling abilities of learning disabled populations follow normal developmental patterns though at a delayed rate.

Developmental changes will occur when children are given opportunities to see and use print in a variety of experiences (Gentry, 1984, 1987; Gentry & Henderson, 1978; Goodman, 1986; Graves & Stuart, 1985; Graves, in Walshe, 1982; Read, 1986; Temple, Nathan, & Burris, 1982; Wood, 1982). The number and quality of opportunities will have a direct result on the rate of development.

Age Equivalencies

Since rate of progress is so individualized, age and grade equivalencies are hard to establish. This has been one area of criticism of invented spelling. Groff (1986) criticizes invented spelling because researchers do not give precise age norms as to when an average child should enter or leave a specific stage of spelling development.

While precise age norms are not given, researchers do provide some indication of age as related to stage. Beers (1980) suggests the interrelationship between Piaget's theory of cognitive development and spelling development. His findings indicate that children between the ages of six and seven do follow sequential spelling strategies that progress

as the child develops. This finding supports the Piagetian connection to spelling development as "many six-year-old children are still in the stage of preoperational thought which precedes the stage of concrete operation in his [Piaget's] theory of cognitive development" (p. 43). A preoperational child, centering on the single most dominant characteristic of an object, uses the letter-name strategy in his/her spelling. The seven-year-old, having passed into the stage of concrete information, is able to deal with more than one feature. He/she can deal with the word's surface characteristics and categorize it by its orthographic features (Beer, 1980).

Gentry (1981) suggests that precommunicative spelling often comes early in kindergarten for children who have been exposed to print or in grade one for children who have not. He further suggests that phonetic spelling is prevalent among first graders but usually children move into the transitional stage in late grade one or early grade two. In his analysis of Bissex's son's writing in GYNS AT WRK, Gentry (1982) noted when Paul passed through the various stages. Paul entered the precommunicative stage at 4 years, moved into semiphonetic at 5 years, 1 month and stayed at that stage for only 2 weeks, when he moved into phonetic. At 6 years, 1 month he became a transitional speller until he was about 8 years old when his spelling was essentially correct. This is only one time frame. Edwards (1985) suggests the final stage of spelling

development, standard spelling, usually occurs at about the fifth grade.

Gentry (1981) suggests that children who are at the precommunicative and semiphonetic stages, which usually occur in Kindergarten or grade one, need to understand the concept of word. Templeton (1980) suggests that children somewhere between the ages of five and seven begin to develop a fragile, tentative concept of word separate from the observable environment. From these and preceeding examples, it is seen that matching stages of invented spelling to specific grades or ages is difficult. Researchers can only provide rough estimates influenced by the individualistic learning rate of the child.

Identifying Stages of Development

Developmental spelling levels may be determined only through observation of spelling errors, not through observation of correctly spelled words (Gentry, 1982). To determine a child's level of spelling development, a sample of incorrect spelling must be evaluated. This can come from two sources; either a writing sample or a teacher given spelling test (Temple, Nathan, & Burris, 1982). A recommended word list for the latter is given in Appendix B.

Examples of more than one stage may be found in a particular sample of writing as a child moves from one stage

to the next (Gentry, 1982). Also, even though a child may demonstrate an ability to use more advanced strategies with words he knows, he may revert to a more primitive strategy with an unfamiliar word (Beers, Beers, & Grant, 1977). Each error is categorized into the level of development it represents according to stage characteristics. The most frequent level of error is identified as the overall developmental level.

Concerns about Invented Spelling

Educators and parents are concerned about how invented spelling will affect learning to read or spell (Graves & Stuart, 1985; Holbrook, 1983; Wood, 1982). However, Chomsky (1971a, 1971b), Clay (1977), and Ehri and Wilce (1985, 1987) suggest that invented spellers may learn to read and spell more easily than those who learn to read first. This theory seems to be partially substantiated in a research project conducted by Graves from 1978-80 in Atkinson, New Hampshire. In this project, grade one children wrote a total of 1300 books in one year using invented spelling in their rough drafts and published the best 400 for their families. Many began revising their work of their own accord. "Even though the time for writing came out of time formerly spent on reading drills, the children's reading scores were as high as, or higher than, those of previous years" (Graves &

Stuart, 1985, p. 5). It has been argued that since invented spelling follows the same problem solving process as language acquisition (Wood, 1982), such experience with hypotheses formulation and testing in trying to develop a system of spelling rules would be true preparation for learning to read (Chomsky, 1971a, 1971b).

Research indicates that invented spelling has the potential of being an effective and efficient predictor of future reading progress (Mann, Tobin & Wilson, 1987). Mann et al, (1987) developed a kindergarten spelling test "which, scored with a phonological accuracy system that emphasizes the extent to which the response captures the phonological structure of words, has the power to presage first grade reading ability" (p. 386). When they administered the test to a larger and more diverse population of children than those in the first sample, they again found significant correlations between kindergarten spelling and first grade reading ability. Morris and Pernay (1984) also conducted a study which found that first graders' performance on a September spelling test was an effective predictor of end-of-year reading achievement as measured by word knowledge and comprehension.

There is a relationship between invented spelling and correct spelling. In Gerritz's study (Read, 1986), grade one students who used invented spelling performed less well than the other grade one class on a test of recognizing correct spelling at the beginning of grade two, but by the beginning

of grade three, there was no longer a difference. This research seems to indicate that invented spelling may initially interfere with recognizing correct spelling, but that such interference is short-lived.

Groff (1986) criticizes Gentry's (1982) and Zutell's (1980) suggestion that children at the first four developmental levels should not receive formal instruction, rather they should be in a learning environment which allows them to formulate and test their hypotheses about English orthography in frequent and purposeful writing. He notes that their advice is not based on findings from experimental studies of the relative effectiveness of formal spelling instruction versus invented spelling programs. Groff gives five reasons why teachers should resist such suggestion:

1. "the characteristics of the research studies from which this implication for instruction has been drawn" (p. 519); uncontrolled examinations rather than controlled experiments, and flexible, inexact descriptions of the parameters of developmental spelling levels,

2. "the empirical evidence on the effectiveness of teaching phonics in spelling programs" (p. 519), research which the proponents of developmental spelling ignore although they can provide no contradictory evidence,

3. "the findings on the effects of requiring correct spelling from children" (p. 519), which indicate that such requirement has a positive effect on pupils' spelling

achievement, even though developmental spelling research has not offered empirical evidence to the contrary,

4. the large body of "research on the relative effectiveness of direct instruction" (p. 519), which has not been undermined by evidence from developmental spelling research, and

5. "the weakness of the supposition that children's progress through the stages of spelling development is so rigidly governed by natural forces that it cannot be accelerated by appropriate formal instruction" (p. 519).

Groff's arguments may be well-founded, if he has interpreted Gentry and Zutell correctly. However, Gentry (1981) states:

Much of a child's language is learned informally. This is not to suggest that spelling competency can be gained most efficiently through incidental learning alone. It does suggest that informal learning via opportunities to test and generate spelling patterns is a necessary aspect of learning to spell (p. 380).

Gentry (1981) also suggests that children generally reach the fourth stage, transitional, by the later part of grade one or the early part of grade two. Since many schools insist that students begin a formal spelling program in the second grade (DiStefano & Hagerty, 1985), students would reach the precise stage that Gentry recommends formal spelling study should begin (1981). Research by Allen and Ager in 1965 suggests that formal spelling instruction facilitates spelling growth once the child reaches the transitional stage (Gentry, 1982).

In recent research by Clarke (1988), findings indicate that children using invented spelling are able to write on their own in the early months of grade one. Children in the study wrote significantly more than those children using traditional spelling. At the end of grade one, the children using invented spelling in the study "had significantly greater skill in spelling and word analysis in reading" (Clarke, 1988, p. 281).

In reaction to the criticism that invented spelling is habit-forming, Chomsky (1971b) and Dobson (1985) emphasize that misspellings do not become habit. Paul (1976) in observing her kindergarten class involved in invented spelling noted that they seldom invented the same spelling twice. As children are exposed to correct spelling, they incorporate this new knowledge into their invented spellings (Anderson, 1985; Chomsky, 1971a, 1976; DiStefano & Hagerty, 1985; Gentry, 1978; Gentry & Henderson, 1978; Paul, 1976; Read, 1975). "As awareness of standard spelling increases, and as 'sight vocabulary' or visual memory of word forms grows, children's spontaneous spellings gradually approach standard forms" (Wood, 1982, p. 715).

Scott (1987) expresses concern with the fact that many educators believe students will become competent spellers by simply writing regularly, a process she calls "osmosis". "The basis for developing concepts about written language is the ability to examine words carefully and logically. Most

children require support for this process in an environment which encourages attempts to 'make sense' of English orthography" (Scott, 1987, p. 14). Scott advises that words chosen for study must represent the complex syntactic and semantic patterns and principles underlying the orthography. She suggests the developmental approach to spelling uses the spelling of words merely as a starting point, in which students form concepts about language that are applicable to all aspects of the curriculum.

Benefits of Using Invented Spelling

Researchers note many advantages of using invented spelling to write. Encouraging children to write with invented spelling in the early grades develops an excellent foundation for reading (Chomsky, 1971b). Dobson (1985) relates a program he calls "Learn to Read by Writing", which involved reluctant grade one readers. Encouraging these children to write with invented spelling resulted in their making good progress as writers, but also growing in reading skill development. They had transferred their active participation and enthusiasm for writing over to the regular classroom reading program.

Lancaster, Nelson, and Morris (1982) found that low readers in grade two who became immersed in writing through invented spelling were reading more than the second graders

of previous years. Writing was an important and effective supplement to the children's reading development.

In addition to the positive benefits to reading, invented spelling gives the child the freedom to write without the formal constraints of correct spelling, what Sowers (1982a) calls "early power". "The difficulties of handwriting and spelling tend to impede and delay any genuine desire to produce written language" (Holdaway, 1979, p. 36).

Paul (1976) suggests that the greatest advantage of invented spelling is that it allows children to write independently long before they are ready for a formal reading or spelling program. Invented spelling, she continues, gives some children the chance to express themselves without needing to ask for help from anyone. It also involves children in listening carefully and thinking about sounds in a very purposeful way.

Invented spelling removes obstacles in the path of a young writer; it gives him/her independence, fluent and powerful writing, efficient instruction by practicing and drilling at an appropriate pace and level of difficulty, and early control and responsibility as he/she makes the system his/her own (Sowers, 1982a). Dyson (1984) agrees that children attempt to master written language by using it; they cannot be taught the workings of the symbol system. Children must achieve a basic understanding that print is a form of language like the spoken and heard forms of the language.

Since this is a very difficult concept to teach, children must become actively involved with reading and writing until they come to the understandings on their own. Additional interactions with peers and adults will help children to advance their understandings.

Armington (in Lehr, 1986) argues that invented spelling in her kindergarten class did more than encourage the children to write, "it encouraged them to be adventurous in their ideas and in their use of words" (p. 454). This approach encourages students to take risks with writing; an attitude which may be the real lasting benefit of invented spelling (Sowers, 1982). The child develops confidence in his/her expressive capacities (Chomsky, 1971b; Dobson, 1985), which leads to a satisfying sense of accomplishment that promotes his/her self-image (Dobson, 1985).

Pedagogical Viewpoint

Graham (1983) suggests that an effective spelling program must have individualized instruction in which the teacher responds to students' unique characteristics and educational needs. When children use invented spelling, the teacher is free to observe diagnostic data to indicate teaching strategies in writing and reading (DiStefano and Hagerty, 1985; Dobson, 1985). Dobson (1985) suggests that data may also indicate possible sources of difficulty with beginning

reading in early primary children. Examining children's invented spellings allows an examination of their implicit word knowledge (Templeton, 1980) and indicates individual differences and provides objective evidence of what the writer has learned.

An additional benefit of invented spelling is that the teacher has more time at her disposal. When a child is free to spell as well as he/she can, he/she needs teacher assistance less often, thereby freeing the teacher to observe all the children in the writing process, or conference with one student in particular (Dobson, 1985).

Correction

Invented spellers' transition to traditional spelling is not facilitated by the teacher scoring errors or requiring them to rewrite the correct word repeatedly. By simply correcting errors without further feedback or interaction, the teacher is failing to recognize that he/she is depriving the child of the opportunity to learn from his/her own mistakes (Edwards, 1985). In all language, children must be active participants: "Children should be able to do their own experimenting.... In order for a child to understand something, he must construct it himself, he must re-invent it" (Piaget, in Chomsky, 1976, p. 64).

Graves (in Holbrook, 1983) notes that research in writing behaviour indicates that correcting every spelling error (and other mechanics) in children's writing is actually harmful to good writing development. "One of the greatest difficulties a child can face in learning to spell is being inhibited from spelling because of the risk of being wrong" (Gentry, 1987, p. 9). An overemphasis on correctness leads to children's editing text before they produce it (Atwell, in Deford & Harste, 1984) and undermines self-confidence (Graves & Stuart, 1985). If teachers can ignore misspellings and the mechanical errors and encourage creativity, expression, and fluency, children will naturally incorporate the mechanics through reading and writing practice (Bennett, in Holbrook, 1983).

Beers, Beers, and Grant (1977) state "a child who is constantly corrected as he tries to speak may hesitate to speak for fear of being corrected. The same fear of being corrected can thwart the child's attempts at learning how to spell" (p. 242). He/she must be willing to take risks, a necessary prerequisite for learning (Dobson, 1985).

Children have internal motivation to spell correctly. Children who write regularly and frequently have something to say and a need to say it to a specific audience. This provides the motivation to spell correctly whenever possible, since correct spelling adds to the writer's credibility and is a courtesy to the audience (Edwards, 1985).

In helping children with spelling, there is a temptation for teachers to intervene too soon, too often, and too negatively (Holdaway, 1979). Teachers should aim to maintain or re-establish positive attitudes, rather than giving instruction which usurps the child's own responsibility to understand, correct, and learn from his/her own errors.

A primary teacher, in de-emphasizing standard spelling, is less concerned with correctness than with understanding the reasoning process that a child has used to decide upon a particular spelling (Gentry & Henderson, 1978). The teacher can infer the child's knowledge of words and his/her conceptualization of written language.

Children will progressively correct their own spelling errors (Goodman, 1986; Holdaway, 1979; Kamii & Randazzo, 1985). Children who write in a language rich and supportive environment eventually replace their incomplete and incorrect spellings (Haley-James, 1982). As they mature, emphasis on correctness should increase (Gentry, 1987), but it is important that the teacher respond to the meaning of the writing first, rather than the form (Dobson, 1985).

Correct spelling can be promoted by the child's internal motivations, his/her exposure to print, and teacher support. These are indirect ways of correction. There are acceptable ways to actively correct spelling without inhibiting students' writing. Lancaster, Nelson, and Morris (1982) report that children can accept constructive criticism of their spelling.

In their study, children in a low grade two class read what was written to the teacher who then took notes on their nonstandard spellings. No marks or corrections were made on the children's writing. "We assured them that we could not expect second graders to be perfect spellers of all the wonderful words they had in their heads" (p. 908). The children readily accepted the note-taking and were not inhibited in their writing because the teacher responded positively.

In another approach to correction, teachers can reproduce the writing samples using correct spelling. The child then has a correct model in which to read those words he/she chose to use in writing. These, when placed in class books to be shared, become important reading material for the class (Chomsky, 1979). "They will be exposed to standard spelling but the integrity of his original production is never questioned" (Gentry & Henderson, 1978, p. 623). This may be a particularly beneficial approach for kindergarten children. They are more concerned with the process of invention than the product and often cannot read back what they wrote (Read, 1986). Transcribing their writing immediately will also provide a permanent, retrievable message.

Alternate, active correction may be accomplished by having the teacher write the correct spellings next to the children's attempts and constructively comparing the two (Zutell, 1978). Questions directed at the child ask him/her

to see how the words are alike and different, and what is missing. Questions are based on the specific need of the child (Johnson & Lehnert, 1984).

It is not necessary to correct spelling in all work that is to be displayed or published. When the nature of the work and what it represents in growth is explained, children's work can be published in invented spelling (Edwards, 1985). Those works with so many invented spellings making them difficult to read may be included in the child's writing file rather than putting them on display.

Implications for Teaching

Research on spelling has changed in the last decade or so, from a focus on errors to a focus on the psycholinguistic processes indicated in those errors (Read, 1986; Wood, 1982). Learning to spell is now viewed as a "multifaceted, complex process and that cognitive aspects of learning to spell have implications for teaching" (Gentry, 1984, p. 13). The literature supports five major implications for educators.

Children as Active Participants

Children must be active participants in the process of learning to spell (Hodges, 1981; Templeton, 1980; Zutell, 1980). Spelling instruction demands active involvement with

both spoken and written language (Hodges, 1981). Learning takes time and concepts must be internalized by the children. Teachers provide children with the "raw data of organized experience and allow the children to perform their own conceptual alchemy" (Templeton, 1980, p. 459). Zutell (1980) maintains that children must "discover for themselves the structures governing English spelling just as they invent (in Piaget's terms) the structures which enable them to assimilate reality, and tacitly construct the transformational rules which govern the structure of spoken and written language" (p. 65). Simply stated, one learns to spell by spelling, just as one learns to speak by speaking and to read by reading (Hodges, 1981).

Teachers Need to Understand Developmental Spelling

The literature supports the need for teachers to understand the developmental nature of invented spelling (Chomsky, 1971b; Clay, in Wood, 1982; Gentry, 1987; Gentry & Henderson, 1978; Lutz, 1986; Read, 1971, 1975) in order to assess pupil understanding and development. Strickland (1989) advises teachers to "learn as much as you can about young children's invented spelling" (p. 427).

Often, according to Richgels (1987), teachers indulge or tolerate invented spelling rather than give it due respect as a learning tool. Teachers often fail to capitalize on invented

spelling, he continues, because they do not understand it.

Read (1975) suggests:

In the classroom, an informed teacher should expect that seemingly bizarre spellings may represent a system of abstract phonological relations of which adults are quite unaware. Until we understand this system better, we can at least respect it and attempt to work with it, if only intuitively (p. 77).

Invented spelling is not just the concern of regular classroom teachers. The independent writing of all children, regardless of level of functioning, reveals their level of understanding, yet very few remedial teachers use this information to design a program that builds on the information (Dobson, 1985). Valuable information is often overlooked.

Since children's spellings go through developmental levels, teachers can acquire, through examination of spelling attempts, useful instructional information on stages of development, sources of difficulty, and signs of progress (Zutell, 1980). They can then plan instruction accordingly (DiStefano & Hagerty, 1985).

Schafer (1988), suggests that university professors need to bridge the gap between the subject matter of phonetics and morphology and teaching methods and materials for prospective elementary teachers. He states that phonetics is often taught to future teachers without clarifying how such knowledge can improve their ability to teach reading and writing. Schafer developed a unit based on Sowers (1982b) "Six Questions Teachers Ask About Invented Spelling", which gave his

university students an opportunity to apply terms and knowledge in a practical task of obvious relevance to their future teaching. The students in Schafer's class benefitted greatly from the unit. It presented them with raw data to interpret, demonstrated that skills instruction can be imbedded in composing, and connected theory and practice. They also developed respect for the mental abilities of young children.

Knowledge of invented spelling, its stages and strategies, in addition to helping teachers plan appropriate instruction (Lutz, 1986) "may prevent the teacher and pupil from becoming upset and frustrated when a child repeatedly makes the same kinds of errors" (Beer, Beers, & Grant, 1977, p. 242). Teachers will be able to make adjustments for slower or faster developers and provide relevant instruction for their stages of development.

Teachers, however, should not automatically dismiss long-standing, research-supported practices. For example, phonics instruction helps develop spelling proficiency, spelling lists work best with formal spelling instruction, and test-study-test method of instruction is more effective than study-test method (Gentry, 1984). Research also supports the effectiveness of having children correct their own tests under teacher direction (Gentry, 1984). Teachers must be aware of principles of learning that provide a basic foundation for an improved spelling program. Learning is an active process

which is enhanced through reinforcement, motivation, and individualization (Funk & Funk, 1987). These principles should apply to invented spelling as well as to formal spelling programs.

Effective Learning Environment

Teachers must construct an effective learning environment for invented spelling (Hodges, 1981; Templeton, 1980). Such an environment must provide numerous, varied opportunities to master the patterns, generalizations, and anomalies of the writing system (Hodges, 1981). Many strategies are needed to create such an effective environment.

1. Children must be provided with a print-rich environment in which they are immersed in print in all its forms (Chomsky, 1976; Gentry, 1984; Gentry & Henderson, 1978; Templeton, 1980).

2. Children are encouraged to read extensively. They should be read to by others (Gentry, 1984, Templeton, 1980; Zutell, 1978, 1980).

3. Children are given frequent opportunities to write in a variety of purposeful, meaningful writing situations (Gentry, 1978, 1984, 1987; Gentry & Henderson, 1978; Goodman, 1986; Hauser, 1982; Johnson & Lehnert, 1984; Lehr, 1986; Lutz, 1986; Zutell, 1978, 1980). Such writing should take place in

the context of whole language experiences (Anderson, 1985; Gentry, 1984; Hodges, 1981).

4. Teachers respond with enthusiasm and encouragement to writing which uses invented spelling (Chomsky, 1971b, 1976; Clay, 1977; Dyson, 1984; Gentry & Henderson, 1978; Lancaster, Nelson & Morris, 1982; Wiseman, 1984; Wood, 1982; Zutell, 1980). "Teachers should accept young children's writing as a gift, to be accepted humbly and appreciated for its honesty and uniqueness" (Cramer, in Lancaster, Nelson, & Morris, 1982, p. 911). Teachers should always respond first to the meaning of a child's writing, his intent and purpose (Goodman, 1986; Graves, 1980; Newman, 1984, Schafer, 1988).

5. Standard spelling is de-emphasized (DiStefano & Hagerty, 1985; Gentry, 1984; Gentry & Henderson, 1979; Wiseman, 1984). "Primary teachers must 'celebrate' mistakes rather than expect correct spelling before development is allowed to occur" (Gentry, 1981, p. 381). "What you pay attention to, you reinforce" (Graves, in Walshe, 1982, p. 10).

Invented spelling is encouraged by telling children to spell the word as well as they can (Zutell, 1978), the way they think it should be spelled (Temple, Nathan & Burris, 1982), or by getting them to notice how their mouth moves when they say the word and to put down what they know about it (Dobson, 1985). Dobson (1985) and Zutell (1978) discourage the specific instruction of "sounding it out".

6. Allowances are given for inexperience with print (Gentry, 1984; Lutz, 1986; Richgels, 1987). An overemphasis on mechanics may actually delay spelling development (Lutz, 1986). Gentry (1984) suggests a de-emphasis on mechanics will result in an increase of spelling experiences and levels of production. "You must not expect too much too soon. Encourage even the earliest stages; look for even the smallest evidence that your students are using their phonics knowledge to make written language" (Richgels, 1987, p. 526).

7. Children are encouraged to test, evaluate, and revise when necessary, their developing theories on the workings of the spelling system (Zutell, 1978, 1980). Hodges (1981) suggests that spelling ability develops when children have opportunities to observe, verify, and correct incorrect attempts. They should be encouraged to develop proofreading habits (Anderson, 1985; Gentry, 1984; Hodges, 1981). Different amounts of revision can be expected from each child, depending on the child's ability (Hauser, 1982). An awareness of the need for correct spelling in published pieces should be introduced early (Gentry, 1984).

8. Teachers allow and help young children to learn the alphabet and letter sounds (Chomsky, 1971b; Templeton, 1980).

9. Teachers conference with children. In conferencing, what Graves (1982) calls simple, powerful interaction, teachers use constructive questioning which focuses the child's attention on specific print features (Dyson, 1984;

Sowers, 1982b). Teacher conferencing and pupil self-analysis under teacher guidance are proven methods (Gentry, 1984).

10. Children are encouraged to interact with each other. When children exchange ideas about invented spelling, they are encouraged to give information in response to a request from a peer and to evaluate each other's ideas (Kamii & Randazzo, 1985).

11. Teachers use a variety of instructional materials and approaches (Hodges, 1981). Word studies, in which children compare and contrast words on a variety of levels (i.e., sound, structure, syntax, and semantics), are encouraged (Gentry, 1984; Templeton, 1980; Zutell, 1978, 1980). Instructional games and word selection from varied sources are beneficial (Lutz, 1986). Research supports meaning-based language experience techniques (Dyson, 1984; Johnson & Lehnert, 1984).

Parents Need to Understand Invented Spelling

Parents need to understand about invented spelling. Society regards accurate spelling as an important attribute in written language since incorrect spelling detracts from the quality of communication and the perceived expressive capabilities of the writer (Hodges, 1981). Parents who understand how written language development is comparable to oral language development will more readily accept spelling

errors in written language instruction (Fields, 1988). These parents will be free from anxiety about correctness and may become the teacher's ally.

Teachers should maintain cumulative files of each child's writings during the school year to show tangible evidence of developmental growth (Fields, 1988). Holdaway, (1979) suggests writing letters to parents on a regular basis to explain what is going on in the children's intelligent attempts to spell English. Also, teachers can help parents have a positive influence on their children's reading and writing by encouraging the parents to act as reading and writing models, to read to the children, to encourage the children with print, and to write to and transcribe for their children (Fields, 1988). Parents also need to know the value of providing reading and writing materials for their children (Wiseman, 1984).

Teachers Need to Evaluate Invented Spelling

Teachers must evaluate children's invented spellings to determine instructional goals (Lancaster et al, 1982; Richgels, 1986; Johnson & Lehnert, 1984). "The teacher's role is neither passive nor permissive, but rather than demanding perfection of beginning spellers, the teacher can build on their emerging competence" (Sowers, 1982b, p. 54).

The process of invented spelling must be observed, not

just the finished product (Hall & Hall, 1984; Lancaster et al, 1982). During such observation, teachers may see or hear evidence of learning that may not be shown in the product. Hall and Hall (1984) found an intermediate stage in the spelling of some children's writing, where the product seemed to be prephonemic, but the process indicated an early phonemic speller. Teachers must recognize transition from one developmental strategy to the next (Gentry & Henderson, 1978).

The product must also be evaluated. Several researchers give specific suggestions on how to evaluate a child's spelling. In the third step of their four step phonics instructional model, Johnson and Lehnert (1984) give the following questions to use in analyzing children's invented spelling:

1. Does the child have the concept of a word (i.e., word boundaries)?
2. Is there a relationship between the child's spelling and the word to be spelled?
3. Does the word demonstrate a sound-symbol regularity (e.g., the word the does not show sound-symbol regularity whereas the word bag does)?
4. Does the child seem to exhibit understanding of the initial, medial, and final letters associated with the sounds heard in the word?
5. What letters does a child consistently associate with sounds heard in the word?
6. Is the child's spelling characteristic of the child's dialect?
7. Does the child consistently omit the same letters within a word? (Johnson & Lehnert, 1984, p. 95)

Such questions aid the teacher in selecting appropriate instructional strategies.

Sowers (1982b) suggests considering a hierarchy of skills when assessing spelling. The child will begin to spell with

a random string of letters. In the next progression the child will use beginning sounds only. The next step is marked by the child's inclusion of ending sounds. In the final step of Sowers' hierarchy the child includes beginning, middle, and ending sounds. The teacher looks for signs that a child has begun to use a spelling rule, although inconsistently. Then the teacher conferences with a child to acknowledge what the child knows, to ask for information to ascertain what part of the words the child attempted to spell, to ask the child to apply his/her knowledge more consistently by drawing his/her attention to a spelling in which the child did not apply a partially mastered skill, and, finally, to give the child opportunity to practice and refine knowledge from the conference.

Richgels (1986) and Temple et al (1982) support invented spelling tests where lists of words are dictated to the children and the results are analyzed. "The 'invented spelling' test gives diagnostic information of the kind teachers need in order to plan writing and reading instruction that respects and builds upon children's existing knowledge" (Richgels, 1986, p. 47). Richgels gave kindergarten children ten words that placed varying demands on a novice speller's ability to segment and represent sounds; jar, pie, dirt, hose, feet, cry, east, table, hat, and kitten. Richgels found that alphabet knowledge was positively related to invented spelling ability. He suggested that young children's invented spelling

provides valuable information about their knowledge of written language and is a good indicator of their expressive and receptive written language.

Temple et al (1982) suggest that writing samples will provide enough data regarding spelling concepts if the child is willing to write. They suggest an invented spelling test for the reluctant writer. They use 16 words; late, wind, shed, geese, jumped, yell, chirped, once, learned, shove, trained, year, shock, stained, chick, and drive. Each word is accompanied by a sentence in which it is used. They score the results, based on the category the spelling falls into. Then the mode is calculated to determine the child's stage of spelling development. (Appendix B)

The preceeding evaluation strategies acknowledge the child's existing level of knowledge. This is highly relevant for planning instruction since instruction should start at the level of phonetic knowledge of the language that young children already possess (Hodges, 1981). Teachers who utilize such techniques have a wealth of knowledge about their children's understanding of the English spelling system. "This system of evaluating early spelling progress is much more satisfactory than reporting how many words a child spelled correctly on a spelling list each Friday" (Gentry & Henderson, 1978, p. 633).

The writing file, folder, and/or journal play an important role in the process of evaluation. Samples placed

in the folder are evidence of stages, strategies and developmental growth for the teacher, the parent, and the child (Goodman, 1986; Graves & Stuart, 1985). If written output of very young children "were better understood, were compared from week to week for significant growth, and as strongly rewarded as the first attempts at spoken words are rewarded, then quite a new perspective on early production of written language would emerge" (Holdaway, 1979, p. 36).

Activities

Progress in spelling may be assessed by the teacher, not so much through direct instruction, but through a program that will provide the child with exposure to the concepts most relevant to his/her needs at the stage of his/her development. Gentry (1982) identifies some appropriate instructional focuses for children at each stage of his developmental model.

Specific Stage Activities

Precommunicative/Semiphonetic

The child at the precommunicative or semiphonetic stage needs instruction which will allow him/her to learn; (a) alphabetic knowledge, (b) directionality of print, (c) spatial orientation, (d) concept of word, (e) matching of oral language to print, and (f) representation of sound with

letters (Gentry, 1982). One approach, enthusiastically endorsed by Gentry (1981, 1982) and many others (DiStefano & Hagerty, 1985; Holdaway, 1979; Johnson & Lehnert, 1984; Temple et al, 1982; Turner, 1985; Shanrahan, 1988) which emphasizes most of the instruction for this stage is the Language Experience Approach (LEA). Gentry (1981) maintains that the LEA is so appropriate because it provides opportunities for conceptualization of the alphabetic principle, letter-sound correspondence, left-to-right orientation, and concept of word:

Discussing an experience with a child or a group and then writing their comments as they watch is another fruitful technique associated with the language experience approach. This practice leads naturally to participation by the children as they begin to "cotton-on" to the way print works, and provides ideal opportunities to demonstrate and discuss the undertaking at a level suited to the children's development (Holdaway, 1979, p. 36).

Children need regular opportunities to write in a variety of forms. One such form, consistently supported throughout the literature, is journal writing. Newman (1984) states that the daily journal is full of learning potential for both children and teachers. "Children have the opportunity of writing every day and receiving almost immediate feedback on the meaning of what they have written. Teachers have the opportunity of observing children in the process of developing as readers and writers" (Newman, 1984, p. 70). Newman cautions that journal writing must occur daily and must not be marked for neatness or spelling. Children should choose

their own topics for writing in journals or creative writing (Goodman, 1986; Graves, 1982). Children write best when their writing grows out of their own experiences.

Children spelling at the first few levels of development may have difficulty holding a whole sentence in their minds while trying to spell one word of a sentence (Hall, 1985). Hall suggests alleviating this problem by having children write familiar poems or rhymes. In kindergarten, where Mother Goose is a favourite topic, children can use their invented spelling skills to make their own Mother Goose nursery rhyme book, in which they select, illustrate, and write their favourites. An added advantage of this process is that children can read both what they have written and what their classmates have written. The teacher can read what everyone writes, regardless of the spelling level of the child.

Temple et al (1982) use the developmental terms "prephonemic" and "early phonemic" which approximate Gentry's levels of precommunicative and semiphonetic, respectively. Their goals, broader than those of Gentry, for the prephonemic spellers concern orienting them to the writing system and teaching them that writing communicates. Teachers and parents work together to bring books, magazines, and other written materials to children as a source of pleasure. They can draw the child's attention to environmental print, label things in the house and the classroom, and encourage writing.

Immersion in print should continue for the early phonemic speller (Temple et al, 1982). Secondly, Temple et al support the need for the speller at this level to develop the concept of what a word is. They outline a specific activity to promote development of this concept. The Lap Method has the child sit in the adult's lap as the adult reads a favourite book. Initially, the adult reads aloud and points to the words, but in successive readings, the child points to the words as the adult reads. Finally, the child reads and points to the words simultaneously. Teachers can also use variations of this method with familiar songs, poems, or nursery rhymes. Ideally, the material should be four to six lines in length. The teacher and child read together as the teacher points to the words. The teacher can then point to a word and ask the child to read it. The child will usually have to recite the line to identify the word by its order in the line.

Temple et al (1982) also support LEA in order to teach children about the writing system. LEA helps children develop an understanding of the way the writing system works, what Temple et al call concept of print. Templeton (1980) suggests that this understanding develops over time with repeated exposure to print:

The children's understanding of what words are, however, surely takes time, and we cannot put it directly in through their senses. We can only give them the raw data of organized experience and allow the children to perform their own conceptual alchemy. In this sense--on both the implicit and explicit levels--yes, children certainly do invent words (Templeton, 1980, p. 459).

In addition to developing a concept of word, early phonemic spellers need to grow in their ability to segment spoken words into individual phonemes and to grow in their willingness to take risks. Risk-taking can be encouraged when the teacher provides many nongraded writing opportunities, praises the child's knowledge about writing and educates parents about the value of encouragement, practice and freedom to make errors in learning to spell (Temple et al, 1982).

In the preceeding strategies given for the precommunicative and semiphonetic levels, there is no suggestion that children at the earliest levels of spelling development need phonics instruction. Gentry waits until the third level, phonetic spelling, before recommending that phonics be studied. Richgels (1987) suggests that phonics instruction can assist early invented spellers' development if it is taught in the context of written language for an explicit purpose. Children need to know that learning letter sounds can help them when they write.

For example, when teaching about the letter D and the D sound ...you might tell students 'You are learning that D stands for the sound at the beginning of dog (or that dog, daisy and doughnut are D words) so that you can use the letter D when you want to write' (Richgels, 1987, p. 525).

However, Graves (1982) maintains that children who know six sound-symbol relationships (usually consonants) can begin to write. Sound-symbol relationships in a whole language classroom are discovered by children when they search for

rules in their writing through invented spelling (Goodman, 1986).

Phonetic

Phonetic spellers need to be introduced to the conventions of English orthography; (a) word families, (b) spelling patterns, (c) phonics, and (d) word structure (Gentry, 1982). It is essential, according to Gentry (1981), that the phonetic speller practice spelling through writing. Through creative, purposeful writing and teacher conferencing, the needs of the phonetic speller may be met. "Direct, systematic teaching of word study, including phonics, should supplement learning to spell through reading and writing, but it should be kept in proper perspective.... The real foundation for spelling is frequent writing" (Gentry, 1987, p. 33).

Temple et al (1982) suggest that spellers at the phonetic level of development, which they call letter-name (not to be confused with Read's (1971) letter-name strategy) need to continue writing and to be exposed to a good supply of interesting print from which to gain deeper insight into standard spelling. They need to read and be read to frequently. Language experience stories are also fundamental at this level. Words taken from dictated stories to form word banks can be a supply of correct spellings. Letter-name spellers will gradually notice the difference between their

spellings and correct ones and revise their concepts to include this new knowledge.

Transitional/Correct

Transitional and correct spellers need experience with (a) word study, (b) a spelling textbook, (c) formal spelling instruction, and (d) frequent writing (Gentry, 1982). Gentry (1981) suggests that most children will enter the transitional stage of spelling by late grade one or early grade two. Since the introduction of a formal spelling program traditionally occurs in grade two (Gentry, 1987), transitional spellers progress logically into a program for which they are ready. Like Gentry, Temple et al (1982) emphasize that learning the complex patterns of standard spelling is best accomplished in the context of meaningful writing. Many spelling programs and spelling books do not promote spelling in a meaningful context:

Most spelling books are based on a 'structural analysis' of words. Children study suffixes, prefixes, syllabication, silent letters, double letters, and more. In 1976, a study of current spelling books showed that nearly 50 percent of the exercises were devoted to structural analysis of words. Another 34 percent was taken up by a whole host of exercises that have nothing to do with spelling: handwriting, alphabetizing, and antonyms, among others. Only 18 percent of the exercises asked children to use spelling in context (Graves & Stuart, 1985, p. 167).

Temple et al (1982) add that inductive approaches such as Word Sorts (described in the next section) work well. At the transitional/correct levels of development, spellers have progressed beyond grapho-phonemic into the syntactic and

semantic levels of the English orthography (Scott, 1987). They are ready for word studies which exemplify the patterns and the meaning principle of orthography:

A fundamental principle underlying English orthography is the fact that words that mean the same are usually spelled the same. A student who understands the word know is able to deduce the meaning of knowledge or knowledgeable. . . . The g in sign is difficult to remember since it is silent, but in the related word signal it is sounded (Scott, 1987, p. 11).

Older children can use Dale and O'Rourke's word-webbing technique to discover word patterns and relationships (Zutell, 1980):

In a root web, for instance, words like sympathy, pathetic, and pathology are linked through their common root path--from pathos (suffer). By constructing such webs and checking their accuracy, students can simultaneously extend both their spelling and vocabulary growth through the discovery of underlying, systematic patterns of meaning and spelling (Zutell, 1980).

Children have typically been passive recipients of word lists in spelling (Scott, 1987). Since children must be active participants in their own learning, word games and word studies which involve children in learning are highly desirable. "How much better it would be if their natural curiosity and exuberance were directed toward playing with language and discovering the fascinating games that can be associated with words" (Scott, 1987, p. 14).

Cross Stage Activities

Many activities are beneficial to all spellers regardless of their developmental level. Kamii and Randazzo (1985) emphasize the importance of social interaction among children inventing spellings. Such social interaction allows children to actively learn specific information provided by the environment and assimilate this information into their knowledge. "They receive information and give it with critical, immediate reactions from their peers" (Kamii & Randazzo, 1985, p. 131). Word games are effective instruments for such social interaction and are highly-valued motivation in the teaching of spelling (Graham, 1983; Hodges, 1981). According to Hodges (1981), word games provide enjoyment and opportunities to practice word formations in exciting situations and have the potential to promote further inquiry and experimentation. Hodges (1981) gives several examples of games that would be appropriate for several levels of developmental spelling. (Appendix C)

Spelling Alternatives

Children at all levels may consciously invent alternatives for correct spellings, an activity they enjoy as they propose reasons why their alternate spelling is reasonable (Downing, Coughlin & Rich, 1986). Based on their concepts of the orthography, children substitute letters with phonetically equivalent others (e.g., soup--supe, or soop, phact--fact) and discuss the viability of the alternatives.

Word Sort

Word Sort is one activity consistently supported by the literature on invented spelling (Downing, DeStefano, Rich, & Bell, 1984; Henderson, in Zutell, 1980; Johnson & Lehnert, 1984; Sulzby, 1980). The word sort, generally credited to Sulzby (1980), is a valuable resource for teachers wishing to implement a cognitive approach to spelling (Downing et al, 1984). Sulzby has four purposes for word sorts:

1. to follow children's internal scope and sequence,
2. to lead toward standard generalizations about orthography and phonics,
3. to illustrate to children that they can differ from other people and yet be correct within their own defined standards, and
4. to capitalize on well-established learning principles coming from concept development research" (Sulzby, 1980, p. 131).

In the technique, children build word banks from sight words printed on cards. These cards in the individual child's bank can be sorted into categories such as letter-sound, etymological, and semantic relationships. There are seven basic steps in a word sort:

1. Decide, with the child, the categories to be sorted and make a place for leftovers.
2. Let the child sort the word cards under the title or exemplar for each category; put leftovers in the leftover pile.
3. Redefine the category; have the child restate the pattern he is using for sorting.
4. Ask for reaffirmation of choices; ask the child to go down each list and tell you if each one fits the category (strength of decision).
5. Make some distinction between members that fit the category very well and those that are 'fuzzy' yet do not quite belong in the leftover pile.
6. Ask for a redefinition of the rule or generalization. Now the child has a rule and clear members, clear

nonmembers, and borderline cases distinguished from one another.

7. Optional, but very fruitful: Collect word sort lists in a personal word book or thesaurus (Sulzby, 1980, p.132).

For example, the child's sight word bank may be sorted into four categories: those words which end in the past tense marker "ed" can be sorted into their three different pronunciations of "ed", "t", and "d", and the other words that do not end in the past tense marker may be placed in the leftover pile. The child sorts the words according to the categories established with the teacher. After the sorting is complete, the child restates the rules by which he/she was able to sort the sight words. The child and the teacher discuss those words that fit the categories well and those which were borderline category members. The rule is restated once more, to strengthen the child's understanding.

Sulzby (1980) claims that word sort utilizes the individual's own known words so that the concepts will relate to the words the individual actively uses. She also maintains that word sort allows children to become judges of their own categories and permits them to decide what is worth remembering.

Journal Writing

There are many activities that adhere to the principles of invented spelling outlined in this paper. The one most often mentioned is frequent writing, an activity that is appropriate for all children at all levels of spelling

development. Journal writing and creative writing are excellent cross-stage activities.

Summary

Much research since the 50s has focused on the process of how children learn language. Those researchers involved in the specific area of spelling have been able to provide new insight into the child as an active participant in his/her own learning, whose understanding of English orthography develops over time through repeated experiences with spelling. Chomsky (1971a, 1971b, 1976), Gentry (1981, 1982, 1984, 1987), and Read (1971, 1975, 1986) have provided educators with specific developmental strategies that the child will use intuitively, and they have also identified progressive stages of development that the child will pass through as he/she increases in spelling proficiency.

Identification of children's spelling strategies and stages of development provides both diagnostic and prescriptive data for teachers. Spelling errors indicate the understandings that children have when they attempt to spell words. Identification of such understandings allows teachers to provide the most relevant instruction and writing experiences through a variety of techniques.

CHAPTER THREE

METHODOLOGY AND PROCEDURE

Pilot Survey Questionnaire

A pilot survey questionnaire (see Appendix A), designed by the researcher and based on a review of the literature on invented spelling, assessed the need for a handbook of invented spelling in the primary classroom. The pilot survey included 18 questions in a yes/no format and one long answer question, presented on both sides of a single page. Space was left for additional comments by the respondents. The questions were designed to provide information about the teacher's general knowledge of invented spelling, his/her attitude towards invented spelling, whether he/she felt a need for a manual or handbook on invented spelling and what issues he/she felt the handbook should address.

In April, 1988, the researcher distributed 380 pilot surveys, through school-school board mailing systems, to all primary teachers (K-3) in the Avalon Consolidated School Board, Avalon North Integrated School Board, Conception Bay South Integrated School Board and the Roman Catholic School Board for St. John's, all of which are on the Avalon Peninsula. This sample provided a variety of class sizes, number of streams per school, urban/rural settings and a

variety in respondents' years of teaching experience. The pilot surveys were returned by the end of the school year and the results were tabulated in June. The survey questionnaire contained 18 questions about the respondent's knowledge of and attitude toward invented spelling. The last question asked teachers whether or not they felt a need existed for a handbook on invented spelling. In total, there were 191 forms returned out of 380 forms sent. Five respondents gave no response for the last question. Of 186 responses to the question whether or not the respondents perceived a need for an invented spelling handbook, 95.69% (178/186) felt that such a need existed. (See Appendix C).

Organization of Handbook

The handbook is designed for use by teachers of primary children. It is not written in the formal style adopted by the researcher in this research. A more informal style of writing, using the first person point of view, is used because it is considered more appropriate and will likely have a more positive effect on teachers' acceptance of the handbook than a formal style. The handbook uses the following outline.

Title: Handbook of Invented Spelling in the Primary
Classroom

Subtitle: I CN RITE, KAS I CN SPEL

Table of Contents:

1. Introduction
2. Strategies and Stages of Development
3. Responding to Children's Invented Spelling
4. Specific Activities to Encourage and Develop
Invented Spelling
5. Responding to Parents
6. References

Introduction. In this section, the researcher provides a brief theoretical rationale for allowing invented spelling in the primary classroom, including the most important goal of achieving freedom in written expression.

Strategies and Stages of Development. This section gives a brief explanation of strategies used by children in their invented spellings, based on Read's (1971, 1975) findings. These strategies are incorporated into a sequence of developmental stages outlined by Gentry (1978, 1981, 1982, 1984, 1987). Examples of children's writing are used in both areas. Comments are made on the rate of progress and the age at which most children will be expected to reach specific stages, when supported by the literature. The features of the educational environment most conducive to invented spelling are given.

Responding to Children's Invented Spelling. This section is designed to give teachers indications of how to respond to children's invented spelling. It deals with the rationale

behind the type of correction required for invented spelling. Appropriate strategies on correction are suggested. Evaluation of invented spelling is explained using children's creative writing samples. Suggested invented spelling tests are included in this section.

Specific Activities to Encourage and Develop Invented Spelling. This section has two parts; part one gives suggested activities specifically related to children's instructional needs at each developmental stage (Gentry, 1978, 1981, 1982), and part two gives cross-stage activities such as Sulzby's (1980) "word sort" technique and the researcher's own activity "Dunkman", a game in which children guess letters to spell a given word and receive positive feedback to their responses. These are fully explained in the handbook.

Responding to Parents. This section gives suggestions to teachers on how they may explain invented spelling to parents, including how parents should deal with invented spelling at home.

References. This section is in two parts; suggestions for further reading and references used throughout the handbook.

CHAPTER FOUR

CONCLUSIONS AND RECOMMENDATIONS

Introduction

This research has reviewed the literature on invented spelling and described the development of a handbook for the implementation of invented spelling in the primary classroom. The need for such a handbook was supported by a pilot survey questionnaire distributed to primary teachers in four school boards on the Avalon Peninsula. The survey showed that 95.69% of the respondents indicated a need for such a handbook. The review of the literature supported the need for teachers to understand the stages and strategies employed by children in their early writings. These two needs, coupled with the guidelines for children's writing in the new primary language guide of the Department of Education of Newfoundland and Labrador, provide sufficient rationale for the development of the handbook.

The handbook attempts to provide the primary teacher with a rationale for using invented spelling, information on the strategies and stages of development present in children's writing, activities to complement developmental levels, suggestions how to respond to invented spelling and points to emphasize to parents. The handbook is based on the literature

review for both the underlying theories and suggested activities.

Conclusions

From the pilot survey questionnaire, the review of the literature on invented spelling, and the development of the handbook on invented spelling for primary teachers, the researcher draws several conclusions. They are as follows:

1. The handbook developed in this thesis provides teachers with necessary information about invented spelling, its strategies and developmental stages, appropriate activities and ways to respond both to children's invented spelling and parents' concerns.

2. The handbook provides a reference list for further study by those teachers interested in pursuing the theoretical basis of invented spelling.

3. Primary teachers will be better prepared to use invented spelling in their classrooms based on information presented in the handbook.

4. Primary teachers who basically approve of invented spelling, but who have been reluctant to encourage it due to a lack of activities, will have a resource available to implement invented spelling.

5. Primary teachers will realize the educational implications of invented spelling in terms of assessing pupil growth and providing appropriate instruction.

6. Primary teachers will be able to free their students from correct spelling constraints when they write creatively. This will encourage, in spelling, the desirable educational strategy of risk-taking.

Recommendations

The researcher proposes a number of recommendations regarding the handbook:

1. Language arts and primary coordinators at the school boards involved in the pilot survey should examine the handbook for the purpose of assessing its appropriateness for use within each school board.

2. If the handbook is fully accepted by these personnel, it may be included in inservice for the primary language arts curriculum guide or in applicable areas such as whole language, writing, or evaluation.

3. The handbook should be distributed to the school boards involved and made available to primary teachers.

4. The handbook includes suggested activities. These should not be considered all-inclusive. Teachers are encouraged to continue to develop and search for additional activities.

5. Further research is needed to assess the handbook's effect on spelling, writing, or reading development.

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APPENDIX A
Pilot Survey

April 20, 1988

Dear Primary Teacher,

In order to assess the need for my thesis proposal topic, A Handbook of Invented Spelling in the Primary Grades, I have designed the following questionnaire. I would greatly appreciate your taking a few minutes to complete the form and promptly return it to your principal. Please feel free to add any comments on the space provided at the bottom of the questionnaire. Thank you again for your cooperation.

Yours sincerely,
Andrea Cook

Please circle the appropriate response.

1. I am presently teaching grade (K, I, II, III) at _____ (school).
2. I (have, have not) heard the term "invented spelling", also known as "inventive spelling".
3. I (do, do not) have a good understanding of the term.
4. I have heard of the term (a) creative spelling (Yes, No).
(b) spontaneous spelling (Y/N).
(c) developmental spelling (Y/N).
5. I (do/do not) encourage my students to use their own spellings in their writing.

6. I (do/do not) believe that all creative writing must use correct spelling.
7. I (do/do not) know the role of writing in a "Whole Language" approach to teaching the language arts.
8. I (have/have not) received inservice from my school board about the role of invented spelling in primary writing.
9. (Answer only if inservice was received.)
The inservice given by my school board (was/was not) sufficient to show me how to use invented spelling in my classroom.
10. I (do/do not) know the prerequisites a child must have to use invented spelling.
11. I (do/do not) need to know about those prerequisites.
12. I (do/do not) know activities to initiate and encourage invented spelling.
13. I (am/am not) aware of the developmental stages of invented spelling.
14. I (do/do not) know appropriate activities to use at each developmental stage.
15. I (do/do not) know the relationship between invented spelling and correct spelling.
16. I (do/do not) know how to inservice parents about invented spelling.

17. (Check as many of the following as necessary.)

I would like information on the following aspects of
invented spelling;

- (a) the prerequisites to invented spelling
- (b) its developmental stages
- (c) appropriate activities for each stage
- (d) the relationship between invented spelling and
correct spelling
- (e) ideas on how to inservice parents about
invented spelling

18. I (would/would not) like to have a manual designed for
teachers that incorporated the above information.

19. I would like the handbook to have the following
additional information: _____

Other comments: _____

APPENDIX B

Experimental Spelling List (Temple, et al, 1982, p. 110-111)

- | | |
|-------------|--|
| 1. late | Kathy was late to school again today. |
| 2. wind | The wind was loud last night. |
| 3. shed | The wind blew down our shed. |
| 4. geese | The geese fly over Texas every fall. |
| 5. jumped | The frog jumped into the river. |
| 6. yell | We can yell all we want on the playground. |
| 7. chirped | The bird chirped when she saw a worm. |
| 8. once | Jim rode his bike into a creek once. |
| 9. learned | I learned to count in school. |
| 10. shove | Don't shove your neighbour when you line up. |
| 11. trained | I trained my dog to lie down and roll over. |
| 12. year | Next year you'll have a new teacher. |
| 13. shock | Electricity can shock you if you aren't careful. |
| 14. stained | The ice cream spilled and stained my shirt. |
| 15. chick | The egg cracked open and a baby chick climbed out. |
| 16. drive | Jim's sister is learning how to drive. |

When you administer the word list, it is best to follow these steps:

1. Explain to the children that they are not expected to be sure how to spell many of the words. You want to see how

- they think the words are spelled. They should do their best, but they will not get a grade for their work.
2. If they are stumped by a word, they should try to figure out how it begins, then try to figure out its middle, then its ending.
 3. Read the word, then the illustrative sentence, then read the word again twice. Give the word its normal pronunciation--don't exaggerate any of its parts.

Scoring the children's spellings is a matter of deciding which category the child's spelling falls into. As you examine the way the children wrote the word, you--

- give the word a 0 if it is prephonetic
- give the word a 1 if it is early phonetic
- give the word a 2 if it is letter name
- give the word a 3 if it is transitional
- give it a 4 if it is correct

You must assign each word a strategy according to the descriptions given in the previous sections.

In Figure 7-13 we have scored a child's paper according to the system. If you are not sure how we categorized the spelling of each word, go back and review the early part of this chapter where the categories were described.

lat 2

Figure 7--13

wnd 2

Scoring a spelling list

sead	3	
gees	3	
gout	2	
ul	2	
cutp	2	
los	2	
lud	2	
suf	2	
trad	2	
yer	2?3?	(The y spelling is learned.) Call it 2.
sock	3	
sad	2	
cek	2	
drif	2	

There are two ways to tabulate the children's scores--you can find the average or the mode. The mode is the single score that occurs most frequently. To find the average, you add up the scores for the individual words and divide the sum by the number of words. The average for Figure 7--13, for example, is 2.2. The average, however is subject to some distortion. If the child happened to know the spelling of several of the words, the accumulation of 4's could raise his average to make it appear by this way of reckoning that his strategy was more advanced than it really was. Thus it is safer always to calculate the mode as well as the average.

In the example in Figure 7--13, the mode was 2. What this means is, most of the child's spellings fell into the letter name stage of spelling. Since the average and the mode were in the same range, we may trust this conclusion.

APPENDIX C

Survey Questionnaire Results

Question	Responses	Question	Responses
1.	Kindergarten--35	4.(c)	Yes-----88
	Grade One-----53		No-----79
	Grade Two-----41		No response--24
	Grade Three---44		(n=191)
	Others-----18		
	(n=191)		
2.	Have-----173	5.	Do-----181
	Have not-----17		Do not-----8
	No response---1		No response---2
	(n=191)		(n=191)
3.	Do-----137	6.	Do-----11
	Do not-----48		Do not-----179
	No response---6		No response---1
	(n=191)		(n=191)
4.(a)	Yes-----143	7.	Do-----168
	No-----38		Do not-----14
	No response---10		No response---9
	(n=191)		(n=191)
(b)	Yes-----89	8.	Have-----87
	No-----80		Have not-----98
	No response---22		No response---6

	(n=191)		(n=191)
9.	Was-----48	14.	Do-----60
	Was not----- 39		Do not-----128
	No response----6		No response----3
	(n=191)		(n=191)
10.	Do-----96	15.	Do-----123
	Do not-----91		Do not-----64
	No response----4		No response----4
	(n=191)		(n=191)
11.	Do-----156	16.	Do-----59
	Do Not-----26		Do not-----126
	No response----9		No response----6
	(n=191)		(n=191)
12.	Do-----107	17.	(a)-----140
	Do not-----82		(b)-----138
	No response----2		(c)-----163
	(n=191)		(d)-----122
			(e)-----152
			No response---22
13.	Am-----106	18.	Would-----178
	Am not-----84		Would not-----8
	No response----1		No response----5
	(n=191)		(n=191)

APPENDIX D

Selected Spelling Activities

The following are selected spelling activities that "can be used to enhance the young child's growing awareness of words and how they are spelled while at the same time providing enjoyable encounters with written language" (Hodges, 1981, p.15). The first two games, Sound Rummy and Tongue Twisters, are appropriate for beginning spellers but they may be adapted for use by older spellers. Endless Chain, Alterations, and One Letter at a Time are more appropriate for more advanced spellers in the primary grades and beyond.

Sound Rummy

Again using magazine cutouts, make up thirteen four-card sets, with each set containing pictures whose names have the same first sound, vowel sound, or last sound. Use these cards to play a game that resembles rummy. Shuffle the cards and deal seven to each of two players. Place the remaining cards facedown in a pile. Each player in turn draws a card from the pile and discards an unwanted card in an attempt to create sets of four cards with matching sounds. "pup", "pin", "pine", and "pot", for example, might be a four card set for the initial "p". A player may draw the previous player's discard instead of a card from the facedown pile. The first player to make two sets of matching cards wins (Hodges, 1981, p.16).

Tongue Twisters

"Tongue twisters focus attention on sound-letter associations and youngsters enjoy creating them. For example: Susie saw several sea serpents inside the suitcase" (p. 18).

Endless Chain

Endless Chain begins with one student spelling a word aloud (or writing that word on the chalkboard). The next student in turn spells a word that begins with the last letter or grapheme of that word. If played in pairs, the game continues until one player cannot provide a new word. The game can, of course, be adapted to a class by playing in teams (p.18).

Alterations

The game of Alterations encourages students to consider how letter combine to form a number of different yet similar words. In this activity, written words are altered by adding or deleting letters to form new words.

For example, pin can be changed to tin, raw to draw, spray to pray and then to ray. One way to play the game is to write directions on separate cards. Base the directions on words with which the children are familiar. Here are a few illustrations. Card one: "Change the first sound of mat to make a word that means 'not on time'. Write that word." Card two: "Now add a beginning sound to the word late to form a word that names something from which you eat food. Write that word [plate]." You may continue the sequence for several more cards or introduce a new sequence whenever you like: "Change the word slip to a word that names a part of your mouth by taking away the beginning sound. Write that word [lip]." When children have the idea of the game, they can choose words and write directions for each other. A set of direction cards can also be used for a game in which the children take turns drawing cards from a stack and following the directions. These cards should not be sequential. The child who correctly follows the directions on the largest number of cards is declared the winner. (p. 22)

One Letter at a Time

New words can be formed by changing a vowel. Ask students to see how many words they can make by changing the vowel sound in simple words. For example: bat to bet to bit to but, ham to hem to him, for to fir to far to fur, bug to big to bag to beg.

In a more advanced version the object is to change one letter of a word at a time to form a string of different words, as, for example, boy to joy to job to sob to son to sun to fun and so on. With younger children, limit the change to one letter at a time and make the word strings as long as possible. With older students, the objective might be to get from one given word to another in as few sound/letter changes as possible, with each change forming a word in the process. For example, a "cat" can be changed to a "dog" via the words cot and dog. Here are several word strings to use in initiating the cat-to-dog version of the game, but you and your students will soon be creating your own.

cold to cord to word to ward to warm
tip to top to toe
town to tows to tots to pots to pits to pity to city
nose to hose to host to most to moss to toss to toes (p. 23)

APPENDIX E

A Handbook of Invented Spelling in the Primary Classroom

I CN RITE , KAS I CN SPEL

Andrea M. Cook

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Introduction

During the past decade, a great interest has developed about the way children learn language in general and the process through which they learn to write. Researchers have found that children learn language best through experimentation. Children learn to speak by speaking, to write by writing, and to spell by spelling. They generate hypotheses about their language based on information they get from their environment. They test their hypotheses and revise them as necessary to reflect the updated information they receive. This process of hypothesis formulation is utilized in oral and written language.

I became interested in writing through university coursework in which I studied the works of Donald Graves, among others. I became intrigued with his process writing and tried to incorporate some of its principles in my teaching. What caught my attention, and what eventually consumed my interest, was the invented spelling children were encouraged to use in their early writing attempts. Charles Read, in 1971, completed a seminal work in the area of invented spelling in which he identified systematic, linguistically based strategies that children use, without instruction, in trying to spell words. I saw evidence of his spelling strategies in my students' writing. Knowing these strategies actually helped me both to read what my children were writing

and to understand what correct judgements they were making about English orthography. I was able to plan instruction that was more effective since it was based on the children's individual needs. This stuff is good, I thought. Other teachers may want to know the kinds of things I have learned. This handbook is my attempt to share relevant, research-supported information on invented spelling strategies and stages with other teachers who are interested in young children's writing.

Strategies and Stages of Development

When children first begin to write, whether at home, in preschool, or in the early primary grades, they use their mouths and ears to assist them in learning to write effectively. Many children have yet to learn the principles governing our system of spelling so they rely on their mouths to vocalize the sounds and their ears to hear how the sounds correspond to the letter names of the alphabet. Most children can recite the alphabet and many know individual letters of the alphabet by sight. When they sit down to write a word, a caption, a letter or a story for their parents or teachers, they use this knowledge as a starting point. Donald Graves (1982) suggests that children only need to know about any six letters of the alphabet to start.

Charles Read (1971) carefully examined the writings of preschoolers and noted that they use several spelling strategies systematically. These strategies have been documented in early primary grades as well.

1. Letter-name strategy. Children will use a single letter to represent the sound of the full letter name. This strategy is utilized when a child writes LFNT for "elephant" or NHR for "nature". If a phoneme in a word sounds just like the name of an alphabet letter, the child writes it down. This strategy is used when a child writes RGU for "argue".

2. Short vowels. Early writers have little or no experience with short vowels sounds. There is, for example, no specific letter in the alphabet whose name sounds like the short vowel sound given to the letter "e". Children then use their tacit knowledge to figure out that the short vowel sound of "e" is made in the same place in their mouths as the letter "a". So they spell "bet" as BAT. This strategy may occur with all the short vowels. Attempt to make the various short vowel sounds and notice how the shape of your mouth changes. What vowel name closely corresponds to short "i"? Children would most likely guess "e".

3. "t" between vowels. Children use their listening abilities to decide that the sound in the middle of "pretty", sounds like a "d" so they write a "d" as in PREDE. Similarly, they write "eighty" as ADE.

4. Dr and Tr. Once again, children use their listening abilities. In this strategy, children tend to represent "dr" as "gr" or "jr" and "tr" as "chr". To a young child attempting to spell the word "dress", it sounds as if it starts with either the letters "gr" or "jr". Examples of children using "chr" instead of "tr" when they write "train" as CHRAN or "truck" as CHRUK are quite common.

5. Nasal consonants. Many children cannot hear "m" and "n" when they occur before another consonant so they omit them. For example, they write "bump" as BOP and "went" as WET.

6. Progressive changes in past tense "ed". Because the past tense marker "ed" often sounds like a "t", beginning writers print the letter "t". For example "ed" sounds like "t" in "jumped" so they write JUPT. As children gain exposure to the conventional way of spelling the past tense marker, their spellings more closely approximate the correct spelling. For example, "peeked" may be written first as PEKT. Over time, the approximations develop into PEKTD and then PEKD.

In summary, these are the common strategies children will first use in their writing:

1. letter-name
2. short vowel substitutions
3. "t" when it sounds like "d" between vowels
4. "dr" written as GR or JR and "tr" as CHR
5. omission of "m" and "n" in front of consonants
6. progressive changes in the past tense marker "ed"

Further research, which supported these strategies, indicated that children's ability in invented spelling actually follows a developmental sequence. This sequence has been delineated into stages by several researchers such as Henderson and Beers (1980); Temple, Nathan, and Burris (1982); and Gentry (1981; 1982; 1983; 1984; 1987). Gentry's model of invented spelling development is among the best since his stages are clearly outlined in terms of the orthographic concepts children possess at each stage of their spelling

development. He also specifies, for each of his five stages, children's instructional needs in order for their spelling development to continue.

Gentry maintains that children's spelling moves through five stages that begin as soon as a child begins to scribble. This starting point, of course, is highly dependent on a child's exposure to writing opportunities and experiences.

The first stage of spelling is precommunicative. Precommunicative spellers have some alphabet knowledge and produce letter forms to represent a message. They have no knowledge of letter-sound correspondence. They simply produce random letters or letter forms, not necessarily in a left-to-right direction. They may know some letters but may not distinguish them from numerals and mathematical symbols which they may include when they write. They fluctuate between upper and lower case letters, but give preference to upper case. The following are examples of precommunicative spelling.

Precommunicative spelling

b=BpA3

ilysoKnQRPQRRR

Correct Spelling

monster

Last night was Halloween.

The second stage, called semiphonetic, represents children's first approximations to an alphabetic orthography, in which there is a beginning concept of the letter-sound

relationship. They begin to understand that letters have sounds that are used to represent the sounds in words. Often just one, two, or three letters are used to represent the entire word. Semiphonetic spellers use the letter-name strategy. They have begun to establish left-to-right direction and a concept of word. They know and produce more of the alphabet. The following are examples of semiphonetic spelling.

Semiphonetic spelling

I sw a wsh

r

camr

Correct spelling

I was a witch

are

camera

The phonetic stage, the third level in Gentry's model, represents a developing understanding of the orthographic system in which the sound structure of the word is being spelled. Children represent all sounds with letters but are unaware of conventional letter sequences. They have developed a sense of word segmentation and spatial orientation. Phonetic spellers use Read's other strategies of vowel substitution. They use "t" when it sounds like "d" between vowels, GR or JR for "dr", and CHR for "tr". They omit the preconsonantal nasals of "m" and "n", and they progress from "t", to "td", to "ed" in representing the past tense marker "ed". Phonetic spellings are much easier to read than the

spellings of the previous two stages. The following are examples of phonetic spelling.

<u>Phonetic Spelling</u>	<u>Correct Spelling</u>
mtn	mitten
Tam	them
cady	candy
litl	little
pkt	picked
plad	played
sizr	sister
chruk	truck
crismis	Christmas
shuts	shoots
weth	with

The fourth stage, transitional, marks a movement away from relying on oral/aural knowledge toward visual knowledge accumulated from exposure to the standard spelling system. Spellers at this level use a visual strategy to assess the accuracy of their invented spellings. They compare invented spellings to standard spellings on a morphemic level. Morphemes are the smallest units of meaning in words. At times, a single morpheme will comprise a single word such as "boy". Other times a combination of morphemes will comprise the meaningful units within words such as "boy" and "'s" which

are two morphemes that join to make the single word "boy's". Transitional spellers compare their invented morphemes to their knowledge of standard spelling and adjust their attempts accordingly. They also show that they are aware of conventions of the orthography by using vowels in every syllable, by representing nasals "m" and "n" occurring before consonants, using both vowels and consonants to replace the letter-name strategy (including r-controlled vowels), using common sequences, vowel digraphs and silent "e", and correctly spelling inflectional endings -s, -'s, -ing and -est. All appropriate letters may be used but not necessarily in the right order. Transitional spellers are aware of alternate representations of the same sound (e.g., -oe, -ow, -ew, and -ough can all sound the same as in "toe", "blow", "sew", and "though"), but have difficulty choosing the correct alternative. There is a greater number of correctly spelled words in the writings of transitional spellers than at previous stages. Often, transitional spelling looks as if it could be a viable alternative to conventional spelling. For example, "infant" is spelled with "-fant", so spelling "elefant" seems to make sense to children at the transitional level. The following are examples of transitional spelling.

<u>Transitional Spelling</u>	<u>Correct Spelling</u>
egull	eagle
bangk	bank
elefant	elephant

<u>Transitional Spelling</u>	<u>Correct Spelling</u>
thier	their
whair	where
clime	climb

The last stage of developmental spelling is the correct stage. Children who utilize invented spelling at this level have developed to the point where they know the basic rules of English orthography and factors which influence spelling. They may even use alternate spellings to decide when a word "doesn't look right". They have mastered prefixes, suffixes, contractions, compound words, and can distinguish homonyms. They use silent letters and double consonants appropriately. They know many irregular spellings and have a large body of learned words.

In summary, these are the five major levels of spelling development:

<u>Level</u>	<u>Major feature</u>
1. precommunicative	1. no letter-sound knowledge
2. semiphonetic	2. beginning letter-sound knowledge
3. phonetic	3. phonetic spelling by sound only
4. transitional	4. experimenting with principles of the spelling system

<u>Level</u>	<u>Major Feature</u>
5. correct	5. knows many principles and applies them correctly

Progress through the Stages

A child goes through the five stages of spelling development at his/her own rate. There are several factors which influence this rate, such as supportive environments, exposure to print, opportunities to write, and the child's innate ability. Although it would be very useful for teachers to know when children are expected to reach various stages, for example, that a six-year-old should be functioning at the phonetic level so that instruction could be planned accordingly, such rigid matching of a specific stage to a specific age or grade level does not occur. Several researchers have noted when individual children have progressed through the specific stages, but are wary of assigning either grade or age equivalents to the stages. Gentry has indicated that many children move into transitional spelling by late grade one or early grade two, based on his examination of children's spelling. However, he does not indicate that all children do. As well, the length of time children spend at this stage, before finally moving into the correct stage, is an individual thing. Some adults are still in this stage for many words! The teacher should be aware of

all levels of spelling development and be prepared for a variety in class.

The Invented Spelling Environment

One of the factors influencing children's spelling progress is a supportive environment. What can a classroom teacher do to create a supportive environment to foster spelling development?

Teachers create a supportive environment for invented spelling when:

- (a) children are surrounded by print,
- (b) children are encouraged to read,
- (c) children are read to,
- (d) children are given frequent opportunities to write in a variety of purposeful, meaningful writing experiences,
- (e) children are encouraged to test, evaluate, and revise their spelling theories,
- (f) teachers use whole language experiences,
- (g) teachers respond to the meaning of writing before spelling,
- (h) teachers respond to invented spelling with enthusiasm and encouragement,
- (i) teachers de-emphasize standard spelling but acknowledge the need for it,

- (j) teachers make allowances for inexperience with print,
- (k) teachers conference with children on an individual and/or small group basis, and
- (l) teachers use a variety of instructional materials and approaches to teach spelling.

Getting Started

How does one get children to write using invented spelling? First, children must have something to say. Once children have some words they want to put on paper, they will write words they know how to spell and will stop suddenly when they come to a word they cannot spell. The children's next step is to ask the teacher, ask another student, change to a word they know how to spell, or, in the case of more advanced children, consult a dictionary. The teacher who wants children to guess the spelling of words, rather than consult another source, will respond with statements or questions that will encourage children to take risks when spelling words they do not know how to spell.

Statements/Questions to Prompt Invented Spelling

1. Try your best to guess what letters make that word.
2. What letters do you think go in the word?

3. Say the word. What do you know about the letters in that word?
4. I see you know that the word starts with "--". What other letter might go at the end? The middle?

Notice the omission of "sound it out". This statement really gives children at the early stage of writing very little direction, especially since they may not have any knowledge of letter-sound relationships.

Responding to Children's Invented Spelling

Once children are using invented spelling in their writing, what should be done with it? Traditionally, teachers picked up their red pens and circled spelling errors or put a line through the incorrect word and wrote the correct spelling above. This was the accepted practice, and in some schools, still is. This process actually deprives children of an active role in learning to refine their spelling.

Research now emphasizes the benefits of teachers responding first to the meaning, the intent, and the purpose of the writing. This reinforces the child's belief that the real reason for writing is to communicate. Once the issue that communication is the most important reason for writing has been addressed, then such skills as spelling, usage, and punctuation can become the focus.

When an incorrect spelling is the topic of discussion in a conference with a child, the teacher must remember that he/she wants his/her students to be writers and to be willing to take risks in spelling. The student must have no fear of his/her spelling being wrong. Telling the child who is just beginning to write that the word is spelled wrongly will simply reduce his/her desire to try invented spelling because of the negative consequences, and subsequent writing will be inhibited. The student will probably focus more on correct spelling than on content so that the next writing will be shorter and of lesser quality in content, but will probably have more correct spelling.

An appropriate response to the incorrectly spelled word is for the teacher to praise the child for his/her attempt and focus on the correct features of the word. For example, the child who spells "summer" as "smr" shows he/she knows the left-to-right direction of writing and the beginning, middle and ending sounds of the word. These points need to be reinforced and built upon.

At this point, I want to stress that I do not want the child to think he/she is correct in his/her spelling of the word "summer". I want the child to know that, for him/her, at his/her grade level (probably kindergarten or grade one for this type of approximation) the spelling indicates that the child knows a lot about the word and has represented important sounds. There are several possible responses which the

teacher can use to expose the child to the traditional spelling of the word. Some of these possible responses are as follows:

1. The teacher can write the correct spelling over the word to show the child that his/her guess was excellent for his/her grade level. Together, the teacher and the student can then compare and contrast the spellings. The teacher must stress the correct guesses rather than focusing on the incorrect guesses.

2. The teacher may wish the child to draw analogies from words he/she already knows how to spell. For example, the teacher may ask the child to recall the words "mother" and "father" to see if he/she can incorporate the "er" in his/her next attempt at spelling the word "summer".

3. The teacher may choose to focus on vowels, "er", double consonants, or other appropriate spelling combinations or patterns when making language experience charts with the class.

4. The teacher may ask the child to find the word in the class-- on charts, posters, the calendar, or in books.

5. The teacher may respond to the writing sample with a sentence which uses the word "summer" correctly.

6. The teacher may simply choose not to emphasize this word at this time because he/she knows that the child has made a major breakthrough about middle sounds and is not ready for other concepts. Praise is given for middle letter inclusion.

This is not an exhaustive list. There are other, creative, positive ways to respond to incorrect spelling which will continue to encourage a child's development towards correct spelling.

Children also need to know that there are times, depending on the audience, when correct spelling is desirable. Published work for display in the hall, for the school newspaper, or to show parents may need to have correct spelling. When the audience knows about the purpose of invented spelling, or when the goal is to show developmental growth, little or no correction is necessary.

A primary teacher has an incredibly busy day. It is not realistic to suggest that there is time to respond to or correct most of the writing that children do. It is much more appropriate to have fewer, more effective discussions about spelling in conference with the child. These can take place either with individuals or with small groups. Often opportunities occur incidentally in the regular classroom routine, which can be expanded upon.

Children in grades two, three, and beyond can be encouraged to develop proofreading habits in their writing. A child in grade three knows which words he/she can spell correctly and which words must be guessed or "invented". These difficult words may be underlined for further work after the writing is completed. Then the child can go back to the approximated spelling to add or delete letters before checking

a dictionary or discussing the spelling in conference with the teacher. The teacher may be able to see a pattern in those words which the child has underlined and may be able to provide the necessary information for the child to re-adjust his/her approach to the words.

Evaluation of Invented Spelling

The only valid reason for evaluating a child's invented spelling should be for planning further instruction. Examining a child's writing sample for patterns of spelling errors can tell the teacher those correct concepts the child possesses about spelling and those concepts that need refinement, extension, or correction. A child's level of spelling development (e.g., precommunicative, semiphonetic, phonetic, transitional, correct) can be determined by the level in which the majority of errors occur. To illustrate how to determine a child's level of spelling development, let's look at two writing samples. The first is written by a grade one child in the middle of the year.

Love is sathng tat you
feal in your hrt wan
your mather haqs you.
title. And kissing you
Love is in your hrt (Julie)

<u>Errors</u>	<u>Correct spelling</u>	<u>Stage</u>
(sa)thing	(some)thing	semiphonetic
tat	that	phonetic
feal	feel	transitional
hrt(2)	heart	semiphonetic
wan	when	phonetic
mather	mother	phonetic
haqs	hugs	phonetic
title	tightly	phonetic

It is not easy to categorize some errors since two different levels may be seen in one word like "something", or an error may seem to have features of two categories. This is not an exact science nor need it be. The teacher wants to get the overall impression of the level of functioning of the child to determine instructional strategies. This child has learned a great deal about spelling. For example, her "ing" patterns and a large number of words (14/23) are spelled correctly. Notice the transitional spelling of "feel". Growth is occurring in several dimensions. Most of her errors are phonetic, although there are examples of other levels as well.

The second writing sample was written by a grade three student mid-year.

Dear Jernel

Today I have a paine but on the weekend I had a

good time exepte laste night becuese I wanted to
watch a show about the 80des but dad watcht the
super bowel. (Liam)

<u>Errors</u>	<u>Correct spelling</u>	<u>Stage</u>
jernel	journal	phonetic
paine	pain	transitional
exepte	except	transitional
laste	last	transitional
becuese	because	transitional
watcht	watched	phonetic
bowel	bowl	transitional

These errors are much easier to categorize since they clearly fall into stages. It is obvious that this child is in the transitional stage. Most of his errors indicate an awareness of a variety of possible spellings for the word he wishes to spell. For example, he knows that two ways of dealing with the long vowel sound in "pain" are the "ai" combination and the silent "e" addition. Not knowing which one to choose, he combines the two. This child is experimenting with the silent "e" in three of his errors. His phonetic errors indicate a high degree of understanding of letter-sound relationships found usually in a child that is about ready to move into the transitional stage.

How do you evaluate the spelling of children who are reluctant to write? Naturally, the emphasis should be on

getting them writing first and worrying about spelling later. If all else fails, you can give an invented spelling test. Several researchers have created word lists to evaluate spelling levels in reluctant writers. The teacher may randomly select a group of words based on a variety of spelling patterns appropriate for his/her grade level or the functional level of the child. The following list of words has been developed by Temple, Nathan, and Burris (1982).

- | | |
|-------------------|-------------|
| 1. late | 9. learned |
| 2. wind (short i) | 10. shove |
| 3. shed | 11. trained |
| 4. geese | 12. year |
| 5. jumped | 13. shock |
| 6. yell | 14. stained |
| 7. chirped | 15. chick |
| 8. once | 16. drive |

The words are dictated, given in a sentence, and repeated. The errors are examined for their specific spelling levels and the mode of the errors (i.e., the level that occurs most frequently), determines the overall level of development. Once the level of development has been identified, the teacher can begin planning instruction to meet the needs of his/her children.

Activities to Encourage and Develop Invented Spelling

In the previous section, we discussed ways of determining a child's level of spelling development using Gentry's model. Now it is necessary to discuss what to do with this knowledge. The Gentry Model suggests that students at each stage have specific needs. It also gives activities that attempt to meet those needs.

Precommunicative and Semiphonetic

Gentry groups children who are precommunicative spellers with children who are semiphonetic spellers on the basis of their needs. Children at both levels need:

- (a) alphabetic knowledge,
- (b) directionality and spatial orientation of print,
- (c) concept of word,
- (d) matching of oral language to print, and
- (e) concept of the letter-sound relationship.

An effective strategy to meet these needs is the utilization of the Language Experience Approach (LEA). LEA, widely practiced in many primary grades, involves the teacher's transcribing on large paper his/her student's oral compositions. These compositions may be of a factual or an creative nature. The teacher, in modelling written language, is providing his/her students with invaluable input about print, including the concepts needed above.

Creative writing and journal writing give children the opportunity to practice what they have learned from the teacher and the environment. Children in the early primary grades often have difficulty remembering what they wanted to say next, after focusing on the composition of a single word. Mother Goose rhymes or well-known poems can help. The teacher can read and choral read with his/her class a favourite nursery rhyme like "Mary had a Little Lamb" as the class follows along in the big book or on a chart. The children hear the nursery rhyme until it is memorized. Then the teacher may ask the children to write the nursery rhyme using their own spelling. This is an excellent way to meet many young writers' needs as it frees them from having to decide what to write next. The rhyme is already memorized, so the children can focus on attempting to spell the predetermined text. The children's concept of word is also developed as they watch the teacher point to the words and as they read along. This provides beginning writers with some knowledge of "word" so that their spelling attempts are already divided into manageable units of words.

Spellers in the first two levels of development need to be immersed in print. A primary classroom filled with books, posters and charts, where reading and writing occur daily, does much to promote spelling development.

Phonetic

Phonetic spellers need to be introduced to the conventions of the spelling system. They need exposure to:

- (a) word families,
- (b) spelling patterns,
- (c) phonics, and
- (d) word structure.

These skills should not be taught directly. The operative word here is "exposure". Children need to be exposed to these skills in a context. The teacher can focus on a specific feature of the print, but the children should be allowed to get the concepts inductively. Children who have difficulty with those concepts need extra exposure, perhaps a bit contrived on the teacher's part by his/her choice of context. The teacher must make certain that those concepts are presented to the children who need them. We do not want to lapse into a skills-oriented program which takes skills out of context.

Let's take an example. A child or several children in a class represent "y" at the end of a one syllable word such as "cry" with "i" and a two syllable word such as "baby" with "e". The teacher has the option to teach the children the phonics rules but wisely chooses the more effective inductive approach. When the teacher next writes a language experience story with his/her class, he/she emphasizes the proper usage of the letter "y". When he/she comes to a word that uses "y"

at the end, he/she stops and asks the children who have been using either "e" or "i" for the letters they think spell the word. When they give the incorrect response the teacher says "Yes, it sounds like that, you're right, but isn't it funny that grownups spell the word with a "y" at the end instead". After repeated focuses like this most children will begin to hypothesize about when to use "y" in their spelling.

The same type of approach can be used to teach phonetic spellers about word families (e.g., cat, mat, fat), spelling patterns such as "ck", as in "back" and "truck", or "qu", as in "queen" and "quiet", and word structure such as root words, affixes, and inflectional endings. The important principle is that these skills should be taught in a meaningful context. It is also essential that phonetic spellers be given frequent opportunities to write and to test their new understandings.

Transitional and Correct

These two categories of spelling development are combined because children functioning at both levels have similar needs. The understanding is that a correct speller still doesn't know how to spell all words and must utilize strategies he/she used in the transitional level.

Both levels of development require that children at these levels need experiences with:

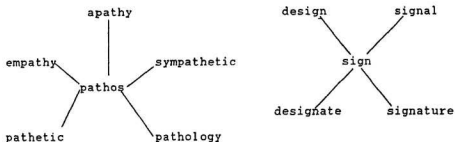
- (a) word study,
- (b) a spelling textbook,
- (c) formal spelling instruction, and

(d) frequent writing.

Gentry suggests that a spelling textbook is needed. This may come as a surprise to those who thought that invented spelling was the ruination of correct spelling. Children at these levels are ready for a textbook. Although Gentry does not specify the kind of spelling textbook required, he does suggest that new spelling texts should be based on the most recent, psycholinguistic approach to the teaching of spelling at the time the texts are developed.

Transitional and correct spellers need inductive approaches to word studies which exemplify the patterns and meaning principles of our spelling system. A student who understands the word "know" is able to apply such knowledge to deduce the meaning of "knowledge" or "knowledgeable". This kind of application needs to be encouraged by the teacher. In the same vein, the student who has difficulty with the silent "g" in "sign" may better understand its inclusion when he/she knows that "signal" is a related word.

One activity in which children learn to draw inferences about how word meanings affect spelling is called word-webbing. The following are examples of word webs. The complexity of the web is dependent upon the level of the speller.



Word webs extend both spelling skills and vocabulary growth. Children learn the underlying, systematic meaning principle of our spelling system.

Cross Stage Activities

The following activities can easily be adapted to many developmental levels. All instruction and learning must be related to writing and the role spelling plays in written communication. Any game format is welcomed since children become highly motivated through games. The suggested activities are only a small sample of those appropriate for advancing spelling development. With some of the rationale presented in this handbook, it is hoped that primary teachers will be confident to select and design activities that incorporate the principles of a cognitive approach to learning spelling.

A Better Way to Spell. The purpose of this activity is to have children learn correct spellings for words by generating

alternate spellings based on accepted combinations of letters. Children consciously invent alternate spellings for correct spellings. Alternatives must be supported with a rationale, not just randomly chosen. For example:

A better way to spell...soup A better way to spell...phone

sup	phown
supe	fone
soop	fown
	fon

Word Sort. This activity was mentioned repeatedly throughout the literature on invented spelling. Its purpose is to lead children toward standard generalizations about spelling and phonics. The activity might be used in the following manner:

1. Sight words are written on cards to form a child's word bank.
2. The teacher and the child together decide how the words should be sorted. Sorting can be based on letter-sound, structure, or meaning. For example, a child can sort his/her word bank for -ed endings that sound like "ed", "t", or "d". In all cases, once the categories are decided, there should be an additional "leftover" category for words that don't fit.
3. The child does the sorting.
4. The teacher conferences with the child, asking him/her to restate the categories and double-checking for each category member. Discussion about certain difficult choices may benefit him/her.

5. The sort may then be collected or written in a personal word book, or thesaurus. This is optional.

Let's take a sample of ten words from a word bank and sort them.

stopped	over	looked	shifted	run
wanted	wished	ask	landed	listened

Sort by Sound of Past Tense Marker "ed"

<u>"ed" ending</u>			<u>leftover</u>
<u>"t"</u>	<u>"d"</u>	<u>"ed"</u>	
stopped	listened	landed	over
looked		shifted	run
wished		wanted	ask

Word sorts may be done individually or by the class. The teacher realizes the needs of his/her students and is best able to decide the categories.

Sound Rummy, Tongue Twisters, Endless Chain, One Letter at a Time, and Guess and Spell are samples of games from Hodges' Learning to Spell (1981). In this book, Hodges gives a background on spelling theory and research. He examines the nature and structure of English orthography, the way children learn to spell, and the implications for instruction. Hodges also gives several examples of games that support the theory examined in the book. Four of these games are examined in detail.

Sound Rummy. In this activity, children are focused on one feature of a word in order to find words that have the same feature. The teacher cuts out 52 magazine pictures or uses other materials which represent 52 single words. Pictures are chosen so that four pictures will belong to the same category and make one of thirteen four-card sets. The words represented in the pictures of each set should have either the same beginning, middle, ending, or vowel sound, depending on the children's need. Then the cards are used with two to four players in a game that resembles rummy. The cards are shuffled and dealt out seven to a player. The remaining cards are laid face down in a pile. In turn, a player selects a card from a pile in an attempt to complete a set of four. He/she discards one face-up. The next player may choose the discard or one from the face down pile. The winner is the one who makes two sets of matching cards, including the eighth card chosen from the deck or the discard pile.

Tongue Twister. In this activity, children refine their knowledge of beginning sounds and similar beginning sounds. Tongue Twister is an easy activity in which children create their own tongue twisters. More advanced children may develop more difficult ones. The written versions may be compiled into a class book for reading. Older children may want to explore and analyze familiar tongue twisters for their difficulty. For example, children may want to discuss why

"Peter Piper picked a peck of pickled peppers..." is not as difficult as "She sells seashells down by the seashore".

Endless Chain. This activity exposes children to correct spellings by having them generate words that begin with specific letters. A student writes any word on the board in correct spelling. The next student must give a word that begins with the last letter of that word. This can be made into a game by using two teams. The winner is the team who can write the last word. With young children who may not have well-developed sight vocabularies, their own names may be used. Here are two examples:

ball--leg--game--elephant--tank--key--yak--?

Andrew--Wayne--Elizabeth--Harold--David--Donald--?

One Letter at a Time. In this activity, children manipulate words in a creative way to change one word into another. Children must go through a process of trial and error to see which letter is the one which will allow the desired change. Children are given a word to start. They are allowed to change one letter at a time, as long as each change results in a word, to arrive at the end word. For example:

work--pork--perk--pert--pest--rest

Guess and Spell. This activity allows children to hypothesize about letter sounds as they choose letters which spell a preselected word. One child thinks of an object in the classroom, from a story read in class, or from theme work. The others take turns guessing the first letter, the second,

and so on, of the word for the object. A player may challenge the leader by attempting the word before it is completely finished. The winner then becomes the leader and guesses another word to start the game again.

Dunkman. This activity, a version of the popular game "Hangman", has been used for several years in my grade one class. It is extremely adaptable to all levels of spelling development.

1. The teacher selects a word. The word, which illustrates a particular feature or features of English spelling which the teacher wishes to emphasize, is taken from the children's theme work, stories, journals, or other appropriate source. There are many features such as:

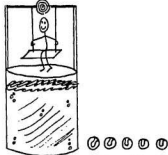
- (a) inflectional endings like -ed, -ing,
- (b) silent letters,
- (c) silent "e" at the end of a word which makes a vowel sound long,
- (d) irregularities like "tion", or "ph", and
- (e) alternate vowels for the same sound (e.g. know, load, sew).

2. The teacher tells the children what the word is and how many letters it has. Telling the number of letters is optional, but it limits the number of letters children guess. They have to choose wisely. The reluctant speller who feels the word is too difficult for him/her will at least make a few guesses towards the specified number.

3. The children write down their individual guess about the correct spelling of the word. While the children are writing, the teacher puts the appropriate number of dashes, each representing a letter, on the chalkboard. With more advanced spellers, toward the end of grade one and beyond, the teacher can give more direction to the guesses with details such as "this letter here is the same as the next one" in the case of double letters, or "this last letter is silent" as in silent "e". These additional clues should not be given before a large number of children have been previously exposed to the concept. Once each child has completed his/her guess, pencils are laid down. There is a great temptation here for children to correct their guesses as the game goes on. However, the teacher must spend sufficient time in the first sessions to reassure the children that their guesses are good and should not be changed so that comparisons can be made between their guess and the correct, or what I call "dictionary" or "grown-up" spelling. To use the word "correct" implies that their guess is incorrect, so I refrain from using it.

The following figure is drawn on the board. It symbolizes "Dunkman" sitting on a swing over a large container of water. Next to him is a stack of balls to "throw" at the release mechanism which will cause him to be "dunked" suddenly into the water. The number of balls represents the number of mistakes the children can make before the dunking occurs. The teacher can add or delete the number of balls depending on the

word chosen to spell. The teacher's objective is to let the children win the game and save "Dunkman", although the children are not aware of this.



4. The children take turns guessing the letters in the word. If a guess is correct, the letter is written in the appropriate blank on the board. If it is incorrect, it counts as a ball thrown at Dunkman. The last ball, (last mistake) causes him to drop into the water. In my class, the children play against me. If Dunkman stays dry, the children win, if not, I win the game.

5. The children copy the correct spelling next to their guess. This is done after all the blanks have been filled and the actual game part of Dunkman is over. The children are encouraged to compare the two spellings. I sometimes get them to give themselves pats on the back for every letter they get right. They enjoy doing that immensely. Often several games of "Dunkman", usually four or five, are played in a row.

The game is thoroughly enjoyed by the children. It is simple and motivating and can grow with them. These are the basic steps of the activity "Dunkman":

1. The teacher selects a word for the children to spell.
2. He/she tells the children the word and how many letters it has.
3. The children write their guess for the word while the teacher draws the figure of Dunkman on the board.
4. Individual children guess a letter outloud and the teacher writes correct responses in the blanks on the board.
5. When the word is completed, the children copy down the correct spelling next to their guess for comparison.

The instructional part of the game, which is the most difficult and yet most rewarding, is the teacher's response to an individual child's guess, when it is accurate, and more particularly, when it is inaccurate. The teacher must confirm the child's guess and praise it to maintain his/her enthusiasm for guessing and "risk-taking". With a correct guess, the teacher can ask the child why he/she decided on the letter. (For more advanced children, the teacher may ask exactly where the letter goes.) With an incorrect guess, the teacher needs to decide the child's basis for selection of that particular letter. If there is some phonological connection such as "c" is the place of "s", or "k" instead of "c", the teacher can confirm the validity of the choice out loud, for the rest of the class to hear. "Yes, "c" is a good guess, because it does make that sound. You have helped the class because someone can guess the other letter that makes that sound. Good guess!" This type of comment will confirm the child's

reasoning for his/her guess. The reasoning spoken out loud will provide the rest of the class with valuable information they can incorporate into their understanding of the spelling system.

The most difficult response will be to an incorrect guess that has absolutely no connection to the letters or sounds in the word. The child who gives this type of answer needs the most reinforcement--he/she needs repeated, positive experiences with hypothesizing about letter-sound relationships.

The following is an example of a possible game.

Teacher: The word I'm thinking about has five letters. The word is dress. (The teacher draws Dunkman and puts five blanks on the board while the children attempt to spell dress. When the children are all finished, they lay their pencils down and the game begins.)

The first child guesses "g".

Teacher: Let's say it. Dress. Yes, it certainly sounds like a "g", doesn't it. This time another letter makes the sound. Good guess, though! (This counts as the first shot at Dunkman. It misses.)

The second child guesses "s".

Teacher: Let's say it again. Dress. It certainly sounds like there is an "s" in dress. You're really lucky because there are two! Do you know where they go? At the beginning?

At the end? Good! (The letters are placed in the proper blank on the board. _ _ _ s s)

The third child guesses "r".

Teacher: You've heard an "r"! There is an "r" in the second position. It's this letter that makes the first one sound like "g". Does anyone know a letter that goes in front of "r" that can sound like "g"?

(The letter "r" is added to the board. _ r _ s s)

The fourth child guess "d".

Teacher: Hey, you've discovered that "d" n front of "r" makes a different sound. Can you guess any other words that start with "dr"? (The letter is added. d r _ s s). The fifth child guesses "a".

Teacher: That's a good guess because it sounds like "a". "A" is a special kind of letter. It belongs in a group called vowels. "A", "e", "i", "o", "u", and sometimes "y" are vowels. Every single word needs at least one vowel. (This is an opportune time to let the children count how many vowels they have in their names.) We need a vowel, but not "a" this time. Thanks for giving us the idea about the vowels. (This is a second shot at Dunkman.)

The sixth child guesses "x".

Teacher: I am so glad that you've given a guess. I can see that you've thought about it! Thanks for giving me another shot at Dunkman! (This is the third shot at Dunkman.)

The seventh child guesses "e".

Teacher: Oh no, you've guessed that the missing letter is "e". "E" is the missing vowel. That means that you've won again and saved Dunkman from a cold dip! Now copy the dictionary spelling right next to your guess to see how you did. Give yourself a pat on the back for the letters you guessed that were in the dictionary spelling of the word.

When the papers are handed in, the teacher gives a check, stamp, or sticker to each child's attempts, regardless of quality. This further supports the child whose understanding of the letter-sound relationship is in its infancy. The next time he/she writes he/she may include something learned from the discussion during the game.

"Dunkman" serves many purposes. It gives children a chance to guess a given word within the specified limits of how many letters to guess, which may be more manageable a task than creative writing. It provides immediate positive feedback so that children's subsequent guesses may be based on an improved understanding of the spelling system. Children work as a team, not against each other. Children develop positive attitudes towards inventing spellings. Finally, children are exposed to correct spellings of familiar words in a pleasant game format. "Dunkman" can be varied to suit all primary grades, from simple words and discussions in kindergarten to more detailed instructions in grade three in which the meaning aspect of the spelling can be addressed.

For example, grade threes can be taught about the negative "un" (which may typically be spelled "on") through Dunkman games with words like unafraid, unbutton, etc..

Responding to Parents

Often, children accept the invented spelling approach to writing more readily than their parents do. Parents are justifiably concerned about correct spelling in a society where incorrect spelling detracts from the written message and reflects negatively on the writer. Parents oftentimes remember how it was when they went to school. Spelling and mechanics such as handwriting and punctuation, even in the early grades, were heavily stressed.

Parents need to be educated about new progress in understanding how children learn language. Parents can perhaps best understand invented spelling when they realize that their children will learn to spell and write in a way similar to the way they learned to speak. The process of trial-and-error plays a major role in the development of all these abilities.

Teachers can remind parents about how they anxiously awaited their child's first babbled sound that was distinct from a cry. How pleased they were when the babble approximated a word. How enthusiastically they proclaimed that Junior said "da-da" or ma-ma" (when in fact Junior may have

been experimenting with sound). They didn't say, "Junior, the proper way to say that is 'Daddy', repeat after me, 'Daddy'". If children were corrected every time they spoke, they would probably be less inclined to speak for fear of correction. Instead, parents allow children to experiment with language and sounds.

The teacher asks the parents to extend this approach to early writing by praising it and encouraging it. Just as a child learns to speak by speaking, he/she learns to write by writing and to spell by spelling. Parents who provide a supportive environment at home become great allies.

There is also great concern that invented spelling will interfere with a child's learning to read or spell properly. The findings of recent research by Clarke (1988) indicated that children using invented spelling were able to write on their own in the early months of grade one. They wrote significantly more than those children using traditional spelling. At the end of grade one, the children in the study who had used invented spelling "had significantly greater skill in spelling and word analysis in reading" (p. 281). Research like this can confirm that invented spelling is not detrimental, but rather beneficial to a child's progress in reading, writing, and spelling.

Teachers are responsible to assure parents that invented spelling is a process by which a child works toward correct

spelling. Invented spelling must not be perceived as a replacement for correct spelling in the early grades.

Teachers who use the invented spelling approach have taught children that there are special times when correct spelling is more desirable than invented spelling, depending on who will be the recipient of the child's work. Teachers need to make parents aware of this, so that parents may be able to provide a consistent approach to correction at home.

It is, in my opinion, very effective to communicate to parents about invented spelling in the classroom at the beginning of the school year. This may be accomplished through a letter, a meeting with individual parents who express concern, a special parents' night meeting, or by focusing on invented spelling in a regular PTA meeting. One of the most effective techniques to convince parents is to show writing samples which show developmental growth over a period of time. A child's writing folder contains enough evidence to convince the most vocal critics. If parents are "inserviced" at the beginning of the school year, writing samples from the previous year which show a full year's growth can provide proof of development.

Parents are considered partners with the school in their children's education by teachers who help them understand the basic philosophy of invented spelling. They learn to respect their children's ability to learn and they feel pride in their accomplishments.

Selected Readings

The following readings will provide interested teachers with appropriate background reading in the area of writing and spelling development.

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