DOCUMENT RESUME

ED 202 016 CS 206 281

AUTHOR Hodges, Richard E.
TITLE Learning to Spell.
INSTITUTION ERIC Clearinghouse on Reading and Communication Skills, Urbana, Ill.; National Council of Teachers of English, Urbana, Ill.
SPONS AGENCY National Inst. of Education (ED), Washington, D.C.
PUB DATE 81
CONTRACT 400-78-0026
NOTE 43p.; TRIP: Theory & Research into Practice.
AVAILABLE FROM National Council of Teachers of English, 1111 Kenyon Rd., Urbana, IL 61801 (Stock No. 27394, $2.00 member, $2.50 non-member).

EDRS PRICE MF01 PC02 Plus Postage.
DESCRIPTORS Elementary Education; *Handwriting; Language Arts; *Learning Activities; *Learning Theories; Orthographic Symbols; Phoneme Grapheme Correspondence; *Phonics; *Spelling; *Spelling Instruction; Teaching Guides; Writing Skills
IDENTIFIERS *Orthography

ABSTRACT

Drawing upon research into the nature of the English writing system and about the development of spelling ability, this booklet presents an approach to spelling in which learning to spell is viewed as a highly complex intellectual accomplishment that develops over time and in conjunction with a student's experience with and knowledge of the properties and uses of language. The first section of the booklet reviews theory and research concerning the structure of English orthography, how children learn to spell, and its implications for instruction, and the place of handwriting in spelling instruction. The second section presents approximately 40 activities for use in teaching spelling. The activities are grouped under four headings: (1) exploring sound and letter relationships, (2) manipulating letters to form words, (3) building words, and (4) alphabetizing and using the dictionary. (HTH)

Learning to Spell

Richard Hodges
University of Puget Sound

NCTE Stock Number 27894

Published 1981 by the ERIC Clearinghouse on Reading and Communication Skills and the National Council of Teachers of English, 1111 Kenyon Road, Urbana, Illinois 61801

This publication was prepared with funding from the National Institute of Education, U.S. Department of Education, under contract no. 400-78-0026. Contractors undertaking such projects under government sponsorship are encouraged to express freely their judgment in professional and technical matters. Prior to publication, the manuscript was submitted to the National Council of Teachers of English for critical review and determination of professional competence. This publication has met such standards. Points of view or opinions, however, do not necessarily represent the official view or opinions of either the National Council of Teachers of English or the National Institute of Education.

The Educational Resources Information Center (ERIC) is a national information system developed by the U.S. Office of Education and now sponsored by the National Institute of Education (NIE). It provides ready access to descriptions of exemplary programs, to reports on research and development efforts, and to related information useful in developing effective educational programs.

Through its network of specialized centers or clearinghouses, each of which is responsible for a particular educational area, ERIC acquires, evaluates, abstracts, and indexes current information and lists that information in its reference publications.

The ERIC system has already made available—through the ERIC Document Reproduction Service—a considerable body of data, including all federally funded research reports since 1956. However, if the findings of educational research are to be used by teachers, much of the data must be translated into an essentially different context. Rather than resting at the point of making research reports easily accessible, NIE has directed the separate ERIC clearinghouses to commission information analysis papers in specific areas from recognized authorities in those fields.

As with all federal educational information efforts, ERIC has as a primary goal bridging the gap between educational theory and classroom practice. One method of achieving that goal is the development by the ERIC Clearinghouse on Reading and Communication Skills (ERIC/RCS) of a series of booklets designed to meet concrete educational needs. Each booklet provides teachers with a review of the best educational theory and research on a limited topic followed by descriptions of classroom activities that will assist teachers in putting that theory into practice.

The idea is not unique. Several educational journals and many commercial textbooks offer similar aids. The ERIC/RCS booklets are, however, noteworthy in their sharp focus on educational needs and their pairing of sound academic theory with tested classroom practice. And they have been developed in response

to the increasing number of requests from teachers to provide this kind of service.

Topics for these booklets are recommended by the ERIC/RCS National Advisory Board. Suggestions for topics are welcomed by the Board and should be directed to the Clearinghouse.

Bernard O'Donnell
Director, ERIC/RCS

1 Theory and Research

Among the behaviors that people regard as uniquely human, language stands at or near the top of the list. It is through spoken and written language that we convey information to each other, information about the past, the present, and the future, about the real and the imaginary—and even about ourselves. Indeed, even though we are often unaware of the process, our personal language habits provide information that others use to form impressions of our educational attainment, our social standing, and even our intellectual capacities. As a result, helping students to grow in their abilities to use language effectively is one of the most important responsibilities of schools.

It is within this context that accurate spelling is regarded by most as an important attribute; for in many ways our society values written language even more highly than spoken language, perhaps because writing is a visible and permanent record of our language habits. And it may be for this reason that poor spelling habits have undesirable consequences in school, in the business world, and in society in general. Like careless habits of speech, incorrect spelling impedes communication by drawing attention from what is conveyed and toward subjective impressions of the writer.

The importance of spelling in the curriculum, however, does not typically match the importance attributed to it in daily life. Why should this be the case? One reason is that the ability to spell has traditionally been regarded as little more than a psychomotor skill acquired through memorization and practice, except for those fortunate few for whom spelling seems to be an innate ability. A second reason is that the teaching of spelling has received little attention in the professional preparation of teachers. For the most part, teachers teach spelling in much the same way they were taught to spell, basing instruction on lists of words that students study in preparation for a weekly test.

It is our intent to present here a very different approach to spelling instruction, an approach in which learning to spell is

viewed not as a process of memorization but as a highly complex intellectual accomplishment, one that develops over time in conjunction with an individual's experience with and growing knowledge of the properties and uses of spoken and written language. Viewed from this vantage, spelling instruction is no longer an unimaginative routine for students (and teachers), but an opportunity to engage in enjoyable and educational experiences with our language.

But before exploring how spelling can be studied in this fashion, we must become familiar with two basic insights that govern the development of materials and methods for teaching spelling, insights about the nature or structure of the English writing system and about how spelling ability appears to develop. For it is the theoretical discussion and the research activities in these two areas that will bring about a fundamental change in how spelling is taught.

We will look first at the nature of our writing system and next at how beginning spellers appear to acquire an understanding of this system.

The Structure of English Orthography

Whenever we engage in the process of writing, we also engage in the process of spelling, the act of transforming our thoughts into a visual record by placing graphic symbols, or graphemes, on a writing surface. The power of writing stems from its capability to transcend time and space, dimensions that until the advent of electronic technology had limited speech as a means of communication. Truly, the development of writing was one of humankind's greatest accomplishments, making possible the preservation of accumulated wisdom and its transmission to future generations.

The historical development of writing is a fascinating story, but one whose telling the purposes of this booklet do not permit. Nonetheless, reviewing briefly the kinds of writing systems that have been devised will enable us to understand more fully both the power and the limitations of English spelling.

Every writing system, or orthography, is made up of a set of graphemes, each of which represents an element of language such as a complete word, a syllable, or a speech sound with which people who know the language can communicate. Thus, learning to spell in any orthography involves learning its graphic characters,

their correct production in writing, and the unit of language each represents. As we shall see, the ease with which an orthography is learned depends in large measure on the unit of language that its symbols represent.

The most ancient type of orthography is represented by Chinese writing and by the Japanese orthography called kanji (which uses Chinese characters) in which the graphic characters represent entire words or concepts. In kanji, for example, the graphic symbol 日, meaning *sun,* together with the symbol 本, meaning *origin,* forms 日本, meaning *origin of the sun* or *Nippon,* the word used by the Japanese for their country. Similarly, the character 女, meaning *woman,* and 子, meaning *child,* together form 女子, meaning *love* or *kindness,* and with the added character ノ, forming 女ノ子, the character for *girl* (Walsh 1967, pp. 28, 32-33).

A principal advantage of this kind of writing, sometimes called logographic writing, is that its graphic symbols can be interpreted without recourse to spoken language since they stand for ideas or concepts by themselves. Hence a Mandarin-speaking Chinese who cannot converse with a Cantonese-speaking Chinese can communicate in writing. On the other hand, logographic writing has a major disadvantage: there are nearly as many characters as there are words in the language or concepts to be conveyed. Learning to read and write in such a system requires much time and effort; indeed, because of the difficulty in mastering the written language, literacy has been a mark of honor and respect throughout the course of Chinese civilization.

A second major type of writing system, the syllabary, is based directly on spoken language and uses graphic symbols to represent the syllables that form the spoken words. Thus, a combination of syllabic signs that represents a group of syllables conveys a spoken word. Syllabaries are found mainly in languages with simple syllable structures; usually a single vowel, or a consonant and a vowel, forms a syllable. Spoken Japanese is such a language and, in addition to kanji, uses two forms of syllabic writing as part of its orthography. One form, katakana, is mainly used to write foreign words that have been adopted into Japanese. Made up of just forty-six characters, each kana represents a distinct syllable. For

example, アメリカ stands for "ah may ri kah" or *America* (Walsh 1967, p. 119).

The advantage of syllabic writing over a writing system that uses symbols to convey whole words is, of course, the significant reduction in the number of written symbols that must be learned in order to read and write. There is a vast difference between learning 9,000 or so symbols used by Chinese scholars (out of 80,000!) and 46 kana. The fact of the matter is, however, that few syllabaries exist today because few languages have such simple syllabic structures. Moreover, alphabetic writing, the most highly developed and widespread system of writing in the world today, has proved to be much more convenient and adaptable to spoken language.

Alphabetic writing is based on the notion that the separate speech sounds of a language, its phonemes, constitute the units that written symbols represent. Ideally, there is a distinct symbol for each sound, so that a spoken language with forty speech sounds would have, for example, an alphabet with forty characters. The simplicity, adaptability, and suitability of alphabetic writing have secured its place as the predominant method of writing in the world today. The alphabet that was derived from the ancient Hebrews, Greeks, and Romans is now used not only in English, but in French, Italian, German, Spanish, Turkish, Polish, Dutch, and Hungarian, to name a few of the languages that employ essentially similar alphabetic characters.

But what about the English language and its use of alphabetic writing? The answer to this question is of great importance in our consideration of the teaching of spelling. Let us begin by looking briefly at how English spelling has been regarded with respect to its allegiance to the alphabetic principle.

To the casual observer, English spelling is a mess. One of its problems, its detractors say, stems from the fact that our alphabet used in English writing contains only twenty-six letters while the spoken language contains more than forty speech sounds. Moreover, many speech sounds are spelled in several ways, such as the "f" sound in *far*, *phone*, and *laugh* and the "ū" sound in *nut*, *tough*, *done*, and *blood*. That outspoken critic of English orthography, the noted playwright George Bernard Shaw, once pointed out that *fish* might just as reasonably be spelled *ghoti* because the "f" sound is spelled *gh* in *rough*, the "i" sound is spelled *o* in *women*, and the "sh" sound is spelled *ti* in *nation*. From examples such as these, it is easy to see why many efforts

have been made to reform English spelling through the past several centuries, and why the most common practice in teaching spelling has focused on memorization. As we shall shortly discover, however, Shaw's parody of English spelling itself provides vivid evidence that the writing system is not as erratic as its surface features would indicate.

With the emergence of linguistic science in the twentieth century, a different view of English spelling began to be expressed, one in which the orthography was regarded as a flawed, but patterned, alphabetic system whose errant ways had linguistic and historical explanation. One reason that English spelling does not adhere to the alphabetic principle, argued some scholars, is that spoken language changes over time while writing changes very little. As a result, the spelling of many words no longer reflects their pronunciation, as in *one, two,* and *night.* A second reason, they pointed out, is that the spelling of some words was, for various reasons, changed by sixteenth- and seventeenth-century scribes and other scholars who helped to stabilize English spelling with the advent of the printing press, as in the spelling of *come, love, some,* and *wonder* with an *o* instead of the older *u*. A third reason that English spelling appears to stray from its alphabetic base stems from the fact that the language has borrowed many words from other languages, sometimes retaining both the spelling and pronunciation of the borrowed words, as in *parfait* and *sabotage* from the French, and in other cases changing the spelling and/or the pronunciation to fit English patterns, as in *medicine* from the Latin, *gymnasium* from the Greek, *volcano* from the Italian, and *mosquito* from the Spanish. Thus, as a result of these and other historical forces, present-day English spelling reflects an erosion of its alphabetic base.

The issue remained, however, concerning the extent to which the writing system had strayed from the alphabetic principle and, more important, what this deviation meant for spelling instruction. To resolve these questions, linguists and educators interested in English spelling undertook new kinds of studies (Robert A. Hall, Jr., 1961; Paul R. Hanna et al. 1966). Let's look for a moment at one of these research efforts, the Stanford University Spelling Project, whose basic premise was that English spelling is based on the alphabetic principle.

These researchers, headed by Paul Hanna of Stanford University, used computer technology to analyze over 17,000 words to determine how individual speech sounds, or phonemes, are

spelled in different positions in the syllables of words. The number of different spellings of each speech sound was first determined and then the number of times each spelling of a given sound occurred in the 17,000 words was counted. The researchers were then able to rank the spellings of each phoneme from most frequent to least frequent and thereby determine which phonemes had "regular" graphic representation and which did not.

Using this information, the researchers developed a computer program to spell the 17,000 words on the basis of phoneme-grapheme correspondence. The results were interesting. The computer correctly spelled over 8,000 words, or about fifty percent, misspelling another thirty-seven percent of the words with only one incorrect phoneme-grapheme correspondence. Moreover, the misspellings could be explained when certain word-building and historical factors were taken into consideration. Hanna and his associates concluded that English spelling is less capricious than it seems, containing numerous systematic relationships between speech sounds and letters. Shaw's spelling of *fish* as *ghoti* could now be shown to demonstrate the basically rational nature of English orthography because while *gh* represents the "f" sound, it does so only at the ends of words such as *rough,* and while *o* represents the "i" sound, the only word in which that spelling occurs is *women,* and finally, while *ti* represents the "sh" sound, that spelling never occurs at the end of a word and is found only in words that contain the suffix *-tion.*

The study attracted considerable attention, both favorable and unfavorable. To some observers, the fact that only fifty percent of the words were correctly spelled by the computer, even after applying many complex rules, demonstrated the irrational nature of English spelling. On the other hand, others recognized that, although focusing narrowly on phoneme-grapheme correspondence, the study verified the underlying systematic nature of English orthography.

A significant factor of English orthography, however, eluded the Stanford researchers; namely, that the appropriate unit of analysis in looking at English spelling is not phoneme-grapheme correspondences by themselves but how these correspondences are governed by the words in which they occur (Venezky 1967). Thus, while the researchers had demonstrated how adjacent sounds and letters influence each other (as, for example, that the final "j" sound of *fudge* is spelled *dge* because it follows a short vowel sound but is spelled *ge* in words such as *huge* and *large*

because they contain other kinds of vowel sounds), their study did not take into account that related words have related spellings despite sound changes (*sane* and *sanity; nation* and *national; derive, derivative,* and *derivation*), nor did it take into account word-building factors such as adding prefixes and suffixes.

The picture that emerges from subsequent studies that do consider these factors is one of a writing system that on the surface appears to be erratic and irregular but is at higher and more abstract levels quite logical. Our writing system, in short, is not merely a reflection of speech sounds but of other language elements as well—word-building elements, syntax, and meaning.

Although theoretical views of English spelling and the research into the nature of its structure are primarily of interest to researchers and other scholars, this body of information has genuine significance for spelling instruction. For, as we are finding out, close parallels exist between what mature, efficient spellers know about the English writing system and what theoreticians and researchers have begun to unearth about that system. Let us turn, then, to a consideration of the information that is emerging about how spelling is learned.

How Children Learn to Spell

Just as there have been recent significant advances in our understanding of the nature of English orthography, so have there been major advances in our understanding of how spoken and written language is learned.

The nineteenth-century psychologist William James once observed that we are born into a "kaleidoscopic flux of confusion" and that our basic task as human beings is to make sense of the world about us. Acquiring language is a dramatic example of how we accomplish that task. With the exception of those with severe physical or mental impairment, each individual who is raised in an environment in which language is used learns to speak relatively quickly. Within the first year, words are said and often within the next year rudimentary sentences are produced. By the time children enter school, most show considerable facility with spoken language.

Although major questions remain to be answered about the process of language acquisition, important insights relevant to our examination of spelling have been achieved in recent years.

One such insight is that learning to speak is in large measure a developmental process in which language concepts are formed, a process of accumulating generalizations about language through experiencing language. Thus, the acquisition of language is made possible because language is systematic, comprised of "rules" that determine how the sounds, words, and grammar of a language are produced and used to convey meaning. It is worth noting that we do not need linguists to tell us that language is systematic; for each of us is well aware of the systematic nature of language, having gained that insight on our own in the first few years of life. Language must be systematic since a functional understanding is gained by most young children without directly being taught. A second insight about language learning is that the process is governed by general conditions of intellectual development and that the language displayed by a child at a given time is an expression of that development. A young child's language, then, should not be regarded as inefficient adult language but as a manifestation of that child's model of language at that particular time. Children who say "foots" for "feet" and "hurted" for "hurt" are, in fact, providing eloquent evidence of their active search for the underlying language system. There are, in short, few if any random errors made in the speech of children. Related to this observation is a third insight, that learning to speak requires numerous opportunities to be wrong. Errors provide comparisons for children to make with standard speech, enabling them to accommodate their own speech patterns over time to the language standards of the social environment in which they live.

Present research, of course, offers many other insights about the language development of children. For our purposes, however, evidence that language acquisition is an inexorable process in which children naturally and actively engage as they work out the "rules of the game" has important implications for learning how to spell. For, as we shall see, there is a high degree of similarity between the process of acquiring spoken language and that used to master written language. Children learn to talk by active involvement with the speech environment, an involvement that engages them in identifying, classifying, and applying concepts about the "rules" of spoken language, and we are now discovering that written language development involves many of the same intellectual strategies.

Only recently has spelling research begun to consider how young learners view the orthography. Instead, spelling studies

tended to examine such factors as the role and kinds of perception involved in learning to spell, the rate of learning, and, most often, comparisons between instructional methods such as formal word study versus incidental learning, oral spelling versus silent spelling, and test-study versus study-test approaches. Of late, however, researchers have begun to consider both the young learner and the nature of the orthography. The work that is emerging reveals that the ability to spell is a highly complex and active intellectual accomplishment, and not, as it has historically been viewed, a low-order memory task.

One of the first major studies designed to examine the beginning attempts of children to spell was conducted by Charles Read, a linguist now at the University of Wisconsin (Read 1971, 1975a, 1975b). Read looked at the ways in which children four to eight years old used their knowledge of English phonology to spell words. Among his subjects were approximately twenty preschoolers who were able to identify and name the letters of the alphabet and to relate the letter names to the sounds of words. These children then "invented" spellings for words that they wrote or constructed by arranging movable letters. Read found that even at an early age children are able to detect the phonetic characteristics of words that English spelling represents. More interesting, although these young children misspelled most of the words they attempted, with minor variation they misspelled the words in the same ways. For example, children typically spelled the sounds of words with the alphabet letters whose names were like those sounds: *bot* for *boat, fas* for *face, lade* for *lady*.

What Read's seminal work disclosed was that children, even very young children, try to make sense of the world around them by using the information that is available to them; in this instance they applied their intuitive knowledge of the sound structure of English to spelling. Moreover, Read demonstrated that the judgments of children about relationships between speech and writing are qualitatively different from those made by adults. In short, learning to write, like learning to speak, is a developmental process.

Charles Read had indeed opened a new frontier for studying the growth of spelling ability. He had shown that spelling errors provide valuable information about the mental processes of young learners, information that correctly spelled words cannot reveal. Other researchers extended Read's line of investigation by looking systematically at the spelling of school-aged children.

Among the substantive work in this field is that of a number of researchers at the University of Virginia under the direction of Edmund Henderson (Beers and Henderson 1977; Beers, Beers, and Grant 1977; Gentry 1978; Templeton 1979; Zutell 1979). In order to identify and describe the developmental stages of spelling ability, these researchers have looked at the kinds of errors made by children in free-writing situations. What they have found reinforces and extends our growing awareness that the ability to spell is a complex intellectual and developmental achievement.

In 1977 James Beers and Edmund Henderson analyzed the spelling errors made by first-grade children over a six-month period and found that these young spellers went through three invariant stages as they developed strategies for spelling. In the first, they used a letter-name strategy in much the same way that Read's preschoolers had. In the second, they showed some refinement in how they spelled vowel sounds, using letters to represent sounds other than the sounds that resembled letter names. In the third stage, they began to use information about features of the English writing system itself, as, for example, spelling *gate* as *gaet* or *bike* as *biek*, thus demonstrating an awareness of the final *e* and how it governs preceding vowels. These young spellers, it was seen, did not lack phonetic knowledge in relation to alphabet letters, but they did lack knowledge about word structure, a knowledge that is gained only through experiences with written language over time.

In a subsequent study (Beers, Beers, and Grant 1977) two hundred children in grades one through four were asked to spell a set of frequently used words and a set of infrequently used words in order to observe the spelling strategies they would employ. Here, as well, children systematically developed spelling strategies based on their experiences with written language, reverting to simpler, more "primitive" strategies, such as assigning letters to words on the basis of letter names, when they were not familiar with a word.

Through these studies, researchers have traced the developmental nature of the child's knowledge of words, suggesting, as Henderson has commented, that young children are "super phoneticians" who are aware of and use phonetic knowledge in their early spelling attempts and who, in successive stages, progress toward fuller and more abstract understandings of English orthography (Henderson and Beers 1980). Their studies lend credence to the position that learning to spell is a developmental process that

culminates in a much greater understanding of English spelling than simple relationships between speech sounds and their graphic representations.

As the preceding discussion has suggested, the traditional views about how children learn to spell have been seriously challenged by the growing body of evidence about the nature of the English orthography and its acquisition. That evidence runs counter to the notion that spelling instruction requires little more of teachers than helping children to establish correct spelling habits. Let us turn then to a consideration of the implications of this research evidence.

Implications for Instruction

An effective environment in which to learn to spell is one that provides numerous and varied opportunities to master the patterns, generalizations, and anomalies of the writing system. Because English orthography sometimes reflects language at the level of sound and at more abstract levels at other times, learning to spell involves learning about words and the interrelationships of the components of words as these are reflected in the orthography. As a consequence, spelling instruction cannot be restricted to the study of the relationship of letters with sounds, but demands an active involvement with both spoken and written language if students are to gain a functional understanding of the nature and uses of English spelling.

As we have seen, learning to spell, like learning to speak, is a developmental process. There are, of course, differences between the child's knowledge of spoken and written language. While children enter school with a functional knowledge of spoken English, for most children school provides the first sustained encounter with writing. The maxim that instruction should start where the learner is has no more fitting application than in spelling instruction and, as the research we have reviewed indicates, that starting place is the phonetic knowledge of the language that young children already possess.

What then are some basic factors concerning spelling instruction in the early years of elementary school? First, because spelling is a language-based activity that involves many of the same intellectual and linguistic processes that are used in verbal communication, spelling should be taught in the context of general language study. Spelling instruction should provide children with oppor-

tunities to explore the ways in which their knowledge of spoken language relates to writing and how to apply that knowledge in spelling. Learning to spell is complex enough to warrant the kind of formal study that many commercial and school district spelling programs provide. At the same time, spelling instruction should not be confined to such programs. Just as one learns to speak by speaking and to read by reading, one learns to spell by spelling. Every writing situation has the potential to further the young student's knowledge about written language.

Second, the development of spelling ability does not proceed in piecemeal fashion, learning about one aspect of English orthography and then the next. Rather, learning to spell is a kind of holistic endeavor in which several aspects of word structure are experienced with each written language encounter—correspondences between sounds and letters, letter sequences, word-building features, and so on. Even though instruction must be appropriate to the child's developmental level, moving from simpler to more complex understandings of written language, the focus should be on presenting spelling as an integrated system. Activities that foster word exploration can contribute significantly to this understanding.

Third, spelling is a multisensory process. The study of written language adds a graphic dimension to language development, a dimension that brings into play visual, auditory, and haptic (kinesthetic and tactile) processes. For most children, all of these sensory mechanisms are involved in learning to spell, as they see, hear, and write language. For some children, however, the visual properties of written words are more important than their oral or auditory properties, while the converse holds for other children. As a consequence, a variety of instructional materials and approaches should be used to provide for individual learning styles and rates.

Fourth, while some spoken language knowledge is gained by being told, the preponderance of language knowledge is gained through daily language experiences. The acquisition of knowledge about written language is no exception. Spelling instruction should foster an exploration of English spelling, building on the natural inquisitiveness of children and providing opportunities for them to apply a growing orthographic knowledge in a variety of writing situations.

Fifth, spelling ability develops when there are opportunities to observe and to verify one's own spelling efforts and to correct

incorrect attempts. Merely correcting spelling errors, however, is not sufficient, for there are few if any random spelling mistakes. Instead, the causes of spelling errors need to be determined because that is the kind of knowledge that can be used to avoid spelling errors in related words. Spelling ability not only requires the production of correctly spelled words but the development of proofreading habits that enable the writer to distinguish between incorrect and correct spellings. Spelling instruction needs to provide numerous opportunities for students to assess their written words and, with teacher guidance, to use spelling errors as a springboard to new understandings about the orthography.

The Place of Handwriting in Spelling Instruction

In ordinary circumstances, whenever one writes one also spells. Handwriting has a special importance in spelling because misformed and illegible letters cause words to appear to be misspelled, to be misunderstood, or not to be understood at all. As with spelling, value judgments are made about the quality of writing and these are transferred to the writer. We may be judged to be sloppy or poor thinkers because the ideas we express in writing cannot be read. In addition, handwriting has value for its own sake. A "fine" hand has always been respected, as the current interest in calligraphy (literally, "beautiful writing") illustrates. Finally, handwriting provides a sensory cue to the spelling of words. Thus, since spelling and writing are simultaneous and inseparable activities, spelling and handwriting instruction can be carried on together.

As with spelling, handwriting proficiency is governed by developmental constraints, as a comparison between the writing of a six-year-old and a nine-year-old readily reveals. Studies of the genesis of writing indicate that in natural settings most children learn to write discontinuous letters first, later connecting the letters, and eventually developing a personal writing style. For this reason, and because of the simplicity of manuscript letter shapes, their resemblance to print, and their greater legibility, most beginning handwriting instruction teaches the formation of manuscript letters, with instruction in cursive, or connected, writing coming when the child writes legibly in manuscript form from memory with little or no difficulty. The aim of handwriting instruction should be to guide each student toward legibility within the individual style that his or her physical capabilities allow.

Regardless of whether or not a single handwriting model is taught, certain requisites to good handwriting need to be established and practiced: correctness of letter form, alignment of letters along a base line, proportionate sizes of letters in relation to each other, uniform slant and spacing of letters, and, finally, the quality of the writing line itself.

Acceptable written language production—both spelling and writing words—requires a conscious awareness of the legibility and correctness of one's own writing. Were the correct letters used in spelling and writing the word? Can others read the writing? While this kind of awareness of handwriting quality is the chief goal of instruction, we should remember that a significant amount of writing ability, like speech, is acquired by modeling. It is important, therefore, that teachers and others who work with children write legibly and demonstrate an awareness of handwriting quality themselves.

2 Practice

As the preceding discussion has made clear, children learn to spell not from a study of isolated words but from a rich interaction with written language through daily reading and writing. Every contact with printed material is an opportunity to learn something new about spelling in particular and writing in general. Let us move, then, to a discussion of specific ways in which children can explore English spelling.

Awareness—the mental quality of alertness and sensitivity—is a vital part of language acquisition, as it is, of course, for the acquisition of knowledge generally. And children acquire language in large part from their alertness to the language around them and their sensitivity to how language "works." The games and activities that follow 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.

The value of word games in the teaching of spelling lies not only in the enjoyment they offer young children but in their potential to promote inquiry and experimentation. In addition, they provide opportunities for students to practice word formation in settings that are challenging and exciting rather than rigid and monotonous. Some games emphasize the importance of letter-sound associations; others demonstrate how letters can be manipulated to form additional words. Still others foster an understanding of word-building processes, such as the use of prefixes and suffixes, or reinforce the relationship between written words and the meanings they represent. In sum, word games encourage the formulation of generalizations about the written code and the classification of information within those concepts.

The forty-odd activities that follow have been grouped under four headings: Exploring Sound and Letter Relationships, Manipulating Letters to Form Words, Building Words, and Alphabetizing and Using the Dictionary. Although the system is somewhat arbitrary and a number of activities might legitimately have been placed under another heading, in general, the categories are

helpful. Here, then, are activities that can make spelling instruction a useful and enjoyable learning experience.

Exploring Sound and Letter Relationships

Spelling ability begins with the young child's awareness of relationships between the phonetic features of speech and alphabet letters. The following activities augment that awareness by providing opportunities for young learners to explore relationships between sounds and letters, to develop auditory discrimination skills, and to practice writing letters and words.

1. Make a deck of cards by cutting from magazines pictures of objects that are familiar to young children and pasting them on cardboard. Create sets of three by choosing cards that picture objects whose names contain two beginning sounds, vowel sounds, or ending sounds in common, for example, *pin, pan, cup* for the initial sound of *p; bat, men, cat* for the short sound of *ă* (or the final *t*); *bed, wood, dog* for the final sound of *d*. Ask students to pair two cards in each set of three by identifying the sounds their picture names have in common. New and larger sets may, of course, be established as youngsters become familiar with the game.

2. 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 to four 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.

In a variation of this game, one player asks another for all the cards that player holds that contain the beginning sound, vowel sound, or ending sound of the word named by the first player. If the player has no cards with that sound, the child who asked for the cards draws a card from the facedown pile. If the child draws a picture whose name contains the sound he or she

had requested, the child gets another turn to ask for cards. The winner is the player who forms the greatest number of sets of cards with pictures whose names have matching sounds.

3. Enlarge the deck of picture cards described above to play a version of bingo. Arrange twenty-four cards in an array of five cards across and five cards down, using a center card marked "free." Each array, then, resembles the familiar bingo card. Make as many arrays as there are children who will play the game. Give each child a handful of paperclips or other markers. Each child then places a marker on the picture card in his or her array that has the sound indicated in your direction. For example, "Cover the picture that begins with the same sound as *run*." The winner is the student who first covers five cards in any direction.

If children have already begun to associate letters with sounds, encourage this association by using cardboard markers on which you have printed the letters that stand for the sounds to be used in the game, as a marker with *r* in the above example. You might also prepare duplicated or photocopied bingo cards. Instead of using markers with these, ask children to print the letter that represents the sound they have been asked to identify beside the corresponding picture.

4. Rhyming activities foster auditory discrimination. Ask each child in turn to suggest a word to be rhymed and to provide a clue to the meaning of that word. For example, "I am thinking of a word that rhymes with *tub*. It is something you do with a cloth when you wash your face." The child who correctly identifies the word *rub* (or *scrub*) gets to name the next word.

5. Rhyming words can also reinforce word meaning and spelling patterns, as in this extension of the simple rhyming activity described above. Open the game with a rhyming riddle of your own: "I am thinking of a word that rhymes with *joint* and is the sharp end of pencil. What is the word and what is its beginning letter?" The student who correctly identifies the word *point* and the letter *p* gets to give the next riddle.

To focus on the visual elements of rhyming words, print a list of words on the chalkboard, for example, *ball, truck, dog, moon*. Then announce, "I am thinking of a word that rhymes with *log*. Which of the words on the board am I thinking of? Write that word." Children earn a point for each correct selection.

In a more advanced version, ask children to write any word that comes to mind that fits a given rhyming pattern: "Can you write a word that rhymes with *joint*? with *ball*? with *dog*?" Share the answers, listing them on the chalkboard to emphasize and reinforce the spelling pattern.

6. Rhyming Ping-Pong, a fast-paced game for two players, provides experience with words that have similar sound and spelling patterns. The object is to name as many rhyming words as possible in a given length of time. One player begins by saying, for example, *bat*, the other responds with *cat*, the first says *fat*, the second calls out *mat*, and so on. Set a kitchen timer to add excitement; the winner is the player who calls out the last word as the timer rings.

Play the game with the entire class by setting the timer and asking students to call out in turn as many rhyming words as possible in a given time. List these at the chalkboard. The game may also be played with two teams by following a relay format.

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

8. Hanky-Panky provides an excellent opportunity for youngsters to observe how certain spelling patterns are maintained in words. A "hanky-panky" is a word based on a process called reduplication in which words alike, or nearly alike, in sound are combined to make compound words: *hodgepodge, blackjack, nitwit, hocus-pocus, flimflam, Ping-Pong.* To play the game, students invent phrases composed of two-word rhymes, as, for example, *small ball, fat cat, butter cutter.* They then make up riddles whose answers or questions involve the hanky-panky they have invented. For example, "A butter cutter is used at dinner time. What is its name?" The answer, of course, is *knife.* "What is hanky-panky for a cat that eats too much?" Fat cat—obviously. "If a basketball is a big ball, what is hanky-panky for a golf ball?" Small ball, naturally.

9. 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.

10. While most of the preceding games focus on single sound and letter patterns, many words contain consonant clusters, or sequences of consonant sounds in particular relationships. *Tray, spray,* and *stray,* for example, begin with the consonant clusters *tr, spr,* and *str,* respectively. Since the spellings of English consonant clusters are very stable—the initial consonant cluster in *scratch,* for instance, is always spelled *scr*—knowing the patterns of such clusters helps students spell a very large number of words.

Make a deck of twenty-eight playing cards for the following consonant clusters:

bl	dr	gr	sc	sl	spr	sw
br	dw	gl	sch	sm	squ	thr
ch	fl	pl	scr	sn	st	tr
cr	fr	pr	shr	sp	str	tw

Then, make a deck of thirty-three cards for the following word parts, or phonograms, that can be used to form words by adding consonants or consonant clusters:

ad, ale, am, ame, ance, and, ank, at, ate, ave, awl, ay, aze
id, ide, ile, im, imp, ine, ing, ink, ip, ipe, ire, ive
od, ool, oop, op, ope, own
um, ump

Finally, make a joker or wild card that can be used anywhere.

These decks of cards can be used to play a form of solitaire. Give the consonant cluster deck to the child and place the other deck facedown on the table. The child may then place the cluster cards faceup in rows on the table and draw a word-ending card from the pile, placing that card after any consonant cluster card with which it combines to form a word. Many variations of this game are possible, but if children are allowed to switch word endings as the possibilities narrow they will be able to form a larger number of words—and learn more in the process. For example, a child may at first have played *aze* with the consonant cluster *bl* to form *blaze.* Later in the game, however, the child may want to switch *aze* to the cluster *cr,* forming *craze,* in order to play *own* with *bl* to create *blown.*

Two or more players may also use the cards to play a version of rummy. Deal the cluster cards to the players, placing the word-

ending cards facedown in a stack. Players draw from the stack and try to form words with the consonant clusters they hold. As in other rummy games, players have the option of picking up a discarded card rather than drawing from the facedown pile. An alternate version may be played by combining the cluster cards and the word-ending cards into a single deck. Deal out the cards and follow the basic format of rummy. This time, however, each player initially holds both kinds of cards and may be able to form words even before drawing a card.

11. Encourage youngsters to experiment with consonant clusters by adding *s* to the beginning of a word to form a cluster and, consequently, a new word. For example, *car* becomes *scar*, *care* becomes *scare*, *core* becomes *score*. Teacher-made cards can be provided, but older children can devise their own.

12. Reverse the principle of the preceding activity by asking students to form a word by removing the second letter of the consonant cluster in a given word. Thus *play* becomes *pay*, *brook* becomes *book*, *glum* becomes *gum*, and *blank* becomes *bank*. This kind of wordplay also provides opportunities to discover how rhyming words are formed.

13. Parts of words, or phonograms, can be used to generate word lists that emphasize sound-letter associations. Provide a given word part—*ice*, for example, and ask students to form as many words as they can from that word part by adding single consonants and consonant clusters. Thus from *-ice* comes *nice*, *rice*, *dice*, *mice*, *splice*, *lice*, *price*, *twice*, *slice*, *spice*, and so on.

Many other phonograms may of course be used, including *-ost*, *-ace*, *-ade*, *-ate*, *-ine*, and *-ight*. Note, however, that the vowel sound changes in some cases.

14. As children become more familiar with English spelling, they tend to focus less on individual sound and letter patterns and begin to look at words as units of spelling, the totality of a word giving clues to the spelling of individual sounds. Foster this awareness by preparing a list of words in which every third, fifth, etc. letter or grapheme is missing. Ask students to supply the missing letter or grapheme based on clues from adjacent letters. If you use sentences instead of word lists, context becomes

an additional clue. For example, One d-y Tom -ent t- the s-ore t- buy s-me ca-dy.

Manipulating Letters to Form Words

Youngsters, as teachers have always known, relish the challenge of word transformation games that involve letter additions, deletions, and permutations. Many of the activities in this section fit that description and are almost certain to be among the most popular in the collection. Beyond the challenge they offer and the inventiveness they foster, however, is their ability to develop the careful visual discrimination that all competent spellers need. For proficient spelling includes not only the ability to write words correctly but the ability to identify words that, for whatever reason, have been incorrectly spelled. Spelling "consciousness," a sensitivity to the appearance of written words, does not occur automatically. Like other aspects of spelling ability, this skill, closely related to the proofreading skills that older students need, develops over time, but games and activities that focus the child's attention on the spellings of words in print contribute to its development.

1. A number of challenging word games can be played with a set of alphabet cards, but you must be certain that there is an adequate number of cards. Based on word-frequency counts, Abraham Hurwitz and Arthur Goddard (1969) suggest that two hundred letter cards are needed with the following distribution. Vowels: 15 cards for the letter *e*, and 10 each for *a*, *i*, *o*, and *u*. Consonants: 10 cards for the letters *c*, *h*, *s*, and *t*; 8 each for *b*, *d*, *f*, *g*, *l*, *m*, *n*, *p*, *r*, and *w*; 5 each for *j*, *k*, *v*, and *y*; 2 each for *q*, *x*, and *z*. You will also need to make cards for common two-letter graphemes such as *oo*, *ea*, *ee*.

Use these alphabet cards in simple, scrambled spelling games. Children may play as partners, trying to stump each other by unscrambling letters to spell a word. One child poses the scrambled word, the other rearranges the letters to spell the word correctly.

Play another spelling game by spreading a number of alphabet cards facedown on a table, including many more vowel than consonant cards. Ask two to four students to select in turn one card, naming the letter and a word that contains that letter. When all of

the letters have been picked up, each player makes as many words as possible from the letter cards he or she has selected, using each card only once. The player who makes the most words wins.

In a more difficult variation, players place the cards faceup on the table and attempt to build words in the manner of Scrabble, that is, by placing letters next to each other in horizontal and vertical strings.

2. The game of Alterations encourages students to consider how letters 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 *mate* 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 *-ate* 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 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.

In a more advanced version, ask children to add or delete letters to form words that do not necessarily belong to the same rhyming family. For example, "Change *are* to a word that names the work of artists [*art*]. Change *fame* to a word that names what you see when you look in a hand mirror [*face*]."

3. Wordplay offers many opportunities to interest children in the unusual properties of words. The objective here is to find and write words that when written backwards form other words; for example, *top* becomes *pot*. Here are some illustrations to get the activity underway: *spot* to *tops*, *tap* to *pat*, *tip* to *pit*, *was* to *saw*, *pin* to *nip*, *pan* to *nap*. Palindromes or words like *Bob*, *sis*,

pip, and *tot* that read the same backward or forward may also be included.

4. New words can be formed by changing a vowel. Ask students to see how many words they can make by changing the vowel sounds in simple words. For example: *bat* to *bet* to *bit* to *but*, *ham* to *hem* to *hum* 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 *dot*. 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*
beer to *bear* to *beat* to *bent* to *lent* to *lint* to *line* to *wine*
ring to *rang* to *hang* to *hand*
bead to *bend* to *bind* to *bird*
seed to *feed* to *fled* to *flee* to *free* to *tree*
lost to *lose* to *hose* to *home*
sick to *silk* to *sill* to *will* to *well*
meat to *seat* to *slat* to *slaw* to *slew* to *stew*
work to *port* to *perk* to *pert* to *pest* to *rest*
good to *food* to *foot* to *loot* to *lost* to *lest* to *best*
walk to *wall* to *tall* to *tale* to *tile* to *tide* to *ride*
hard to *hart* to *mart* to *mast* to *most* to *lost* to *loft* to *soft*
some to *sore* to *more* to *mare* to *mane* to *many*
east to *fast* to *fest* to *west*
boy to *bay* to *ban* to *man*

head to *heed* to *feed* to *feet*
lead to *load* to *goad* to *gold*
shoe to *shot* to *soot* to *toot* to *took* to *tock* to *sock*
rain to *pain* to *pair* to *fair*
run to *ran* to *rat* to *sat* to *sit*
work to *pork* to *pore* to *lore* to *love* to *live*
try to *toy* to *ton* to *tan* to *tin* to *win*
poor to *moor* to *mood* to *good*

5. As children become familiar with word games, try introducing these four variations.

a. Fill-in: In a given amount of time, perhaps three minutes, ask students to write as many words as they can that begin with *r* and end with *d* or *de;* for example, *rid, ride, red, read, road, rode, rod,* and so on. Share the lists before making a new fill-in request.
b. Middle Find: Ask students to find smaller words inside of longer ones; for example, *stand* contains *tan/an/and.*
c. Ingrams: Ask students to create new words by inserting letters into a given word; *save* becomes *shave* or *slave, clam* becomes *claim.*
d. Add-a-Letter: Ask students to form new words by adding one letter at a time, from *in* to *win* to *twin* to *twine.* Make these word chains as long as possible.

6. The objective of this game is to form words by inserting letters between given first and last letters and, in the process, to experience the probability structure of English. For example: b--d can become *bald, band, bead, bend, bind, bled, bold, brad, bred.* The game may be played individually, in pairs, or as a team effort, with each team member writing as many words as he or she can think of in a stipulated period of time. Team members then compare words and delete duplicates; the team that compiles the longest list wins the round. The next round begins with a new first/last letter pair and a stipulated number of blanks.

Adapt the game for younger children by requesting three-letter words from a given first or last letter.

7. Ghosts, a popular word-building game for two or more players, encourages youngsters to apply their knowledge of

letter sequences in spelling words. The first player thinks of a word containing three or more letters and says the first letter of the word. The next player thinks of a word that begins with that letter (it may or may not be the same word) and says the second letter of that word. Each succeeding player in turn thinks of a word containing the letters already given and adds another letter; however, that letter may *not* complete a word. If a player ends a word, he is "dead" and the next player starts another word. After a player has been declared dead three times, he becomes a ghost and drops out of the game. The surviving player is the winner. If a player cannot think of a word that uses the letter sequence that has been passed on, that player may challenge the preceding player, the player who gave that sequence. If the challenged player can provide a word that uses that letter sequence and spell the word correctly, the challenger is dead.

8. In Guess and Spell, one player is declared the leader and asked to think of an object in the classroom, for example, *desk*. The others take turns guessing the first letter of the word, then the second letter, and so on. If a student thinks he or she knows the word before it has been completely spelled, that student may challenge the leader. If the challenger is correct and can spell the word correctly, that student replaces the leader.

9. An anagram is a word formed by manipulating the letters of some other word, as, for example, transforming *rage* to *gear*. The traditional game of anagrams, therefore, allows students to discover how a comparatively few letters or graphemes can be combined and permuted to form many English words. In addition, the activity draws attention to recurring letter patterns as well as letter constraints.

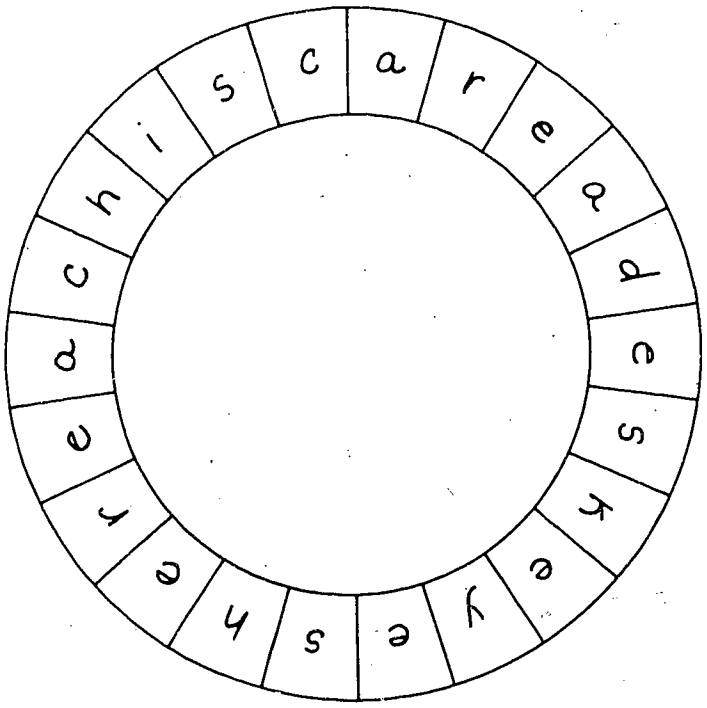
To simplify anagram activities for younger children, provide definitions for new words to be made from other words. For example, "Begin with the word *add* and turn it into another word for father [*dad*]." Similarly, *ate* becomes something to drink (*tea*), *pot* becomes a toy that spins (*top*), and *charm* becomes a word that means to walk in step with others (*march*).

10. Rhopes is another game in the anagram family. Begin by asking a child to form a word by adding a letter to an existing word, from *at* to *rat*, for example. The next child in turn adds a letter to that word to form another word, and so on. Letters may

be rearranged, but only one letter at a time may be added. For example: *at* to *rat* to *tear* to *trade* to *parted.*

11. The object of Alphabits, also a member of the anagram family, is to make as many new words as possible by rearranging the letters of a given word. For example, from *alphabet* comes *bet, pal, let, help, table, tab;* and so on. This activity can be played individually or in groups. Note, however, that letters in newly formed words do not necessarily retain their original sounds.

12. Duplicate on individual worksheets or reproduce on the chalkboard or on a large sheet of cardboard a word circle like the one below. The object is for youngsters to find as many words containing two or more letters as possible by moving in a clockwise direction around the circle. Older children enjoy developing word circle games for others to use, so duplicate a set of empty word circles for that purpose.



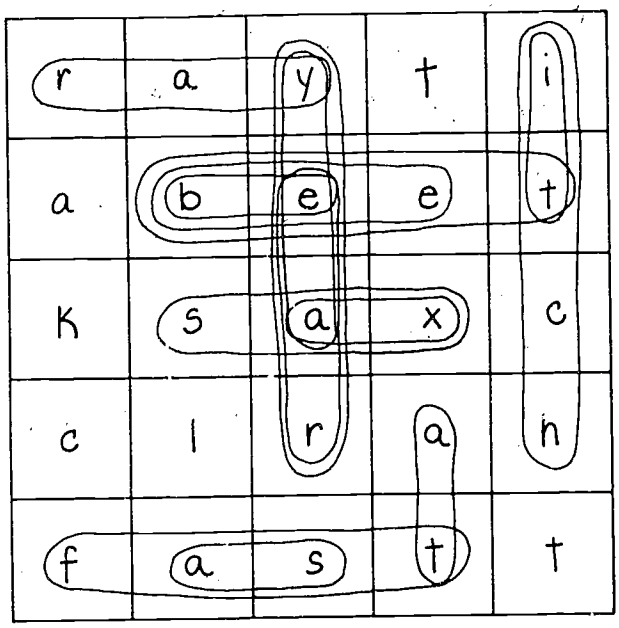
13. A variation of the foregoing activity is Square Word Hunt. Duplicate on individual work sheets or draw on the chalkboard a square divided into twenty-five boxes, each box containing a letter as shown in the square below. For younger students, use squares with nine or sixteen boxes. Youngsters then find and write as many words with two or more letters as possible by moving from one letter to another in any direction—horizontally, vertically, diagonally, and even backwards. The nine-letter box shown below yields at least twenty-five words: mat, at, rat, pat, eat, tat, dam, dare, are, date, rate, tar, mar, pare, mare, tea, ear, pad, mad, rap, ram, ramp, tear, read, reap.

s	t	i	r	a
t	s	e	t	o
e	s	l	a	c
t	e	o	t	h
f	d	r	b	e

p	m	r
d	a	e
e	t	t

14. Word Squares, a game that encourages students to explore letter relationships in words, is best suited for older elementary students, but it can be used with younger children who have begun to observe letter sequences. The game works best when played in small groups of two to four children. Duplicate sheets of paper on which you have drawn a square divided into twenty-five boxes, five horizontal rows and five vertical rows of boxes. Each sheet, therefore, resembles a bingo card without a "free" center box. The opening player thinks of a word (for example, *year*), calls out any one of its letters, and writes that letter in any box of his or her square. The second player writes that letter in any box of his or her square, thinks of a word that can be built around that letter, calls out a letter from that word, and writes that letter in any box. The two players take turns until all boxes are filled or until there are no more opportunities to complete words. Each word formed by a player scores a point, and the high scorer wins.

A completed card will resemble the example shown below, and students should not expect to be able to use all letters to advantage. The student who completed the card below, as indicated by the circled words, scored thirteen points, not counting proper names and plural forms.



In a variation of this game, students alternate calling out consonants and vowels, writing the called-out letters in any box of their squares. The object, again, is to form as many words as possible.

Building Words

As children become more experienced with written language, word familiarity increases, and with this familiarity come two word-building concepts. First, words can be put to new uses by adding other words to them to form compound words; and, second, word elements (prefixes and suffixes) change the function or extend the meaning of root words. Word-building as a part of spelling instruction is usually emphasized in the middle and upper grades, but here are a few activities that younger children will enjoy.

1. Compound words are formed from two or more words that together represent a single meaning, as, for example, *playground.* This compounding process is one of the means by which new words are added to the language. Spelling compound words presents no particular problem if the child already knows how to spell the individual words of which the compound is comprised. Unfortunately, no simple rules tell us when compound words are to be written as a single word (*playground*), as a hyphenated word (*single-space*), or as separate words (*dust storm*). Frequently used compounds, however, are commonly written as single words (*football*). To provide practice in recognizing and forming compounds, prepare two lists of words that can in various combinations form compounds. Ask students to write the compound words that they can identify through trial-and-error experimentation. Some words can be used in more than one combination, as with *sunroom* and *mailroom* or *cowbird* and *bluebird* in the lists below. At least eighteen combinations are possible.

grand	room
sun	man
cow	apple
door	house
dog	mother
police	shine
car	box
rain	knob
pine	drum
blue	drop
hand	bird
mail	boy
bed	writing

2. Make two decks of cards from word lists similar to the ones given in the preceding activity. One deck contains the first-word cards and the other contains the second-word cards. You might color-code these decks for ease in sorting.

Deal out the first-word deck to a group of two to four children and place the second-word deck facedown on the table. Children then create compound words from the cards held in their hands by drawing from the facedown pile. Play out the game in the fashion

of rummy. Another version may be played by combining the two decks. Deal out five to seven cards to each child and place the remaining cards facedown in a pile. Children again create compound words by drawing and discarding. This time, however, they hold both first- and second-position words and may even have been dealt a compound word by receiving, for example, both *fire* and *house*. The game may also be played by one child following a solitaire format.

3. This activity emphasizes the recurrence of certain common words in compound forms; *house*, *ball*, and *room* are examples. The exercise may be based on frequently used first words, as with *school* in the example below, or on second words that readily combine, as with *room*. In either case, students form as many legitimate compounds as possible.

school	bus	play	room
	bag	class	
	yard	big	
	principal	bed	
	boy	small	
	equipment	bath	
	teacher	school	
	girl	messy	

4. Young school children are well aware that words can be used in new ways by adding sounds to them, as when nouns are made plural and verbs altered to indicate past and present tense. Sometimes, however, this awareness results in error, as with *mouses* for *mice* and *runned* for *ran*. Such "mistakes" nevertheless verify a child's familiarity with the dominant plural and tense patterns of English speech. English orthography also reflects these patterns. Most singular nouns, for example, are made plural by adding an "s" sound (*cats*), a "z" sound (*boys*), or a syllable /əz/ (*witches*). In writing, these plural forms are invariably spelled *s* in the first two instances and *es* in the third. The "rule" to remember is that when adding the syllable *es* to words already ending in the letter *e*, only one *e* is allowed, as in *race* and its plural, *races*.

A few nouns, however, do not conform to these plural patterns. Here are four groups of nonconforming nouns that you may want to explore with your class.

a. About a dozen nouns end with *fe*. Their plurals are spoken and written by changing the "f" sound to a "v" sound and changing the letter *f* to a *v* (*knife-knives*). Other words that follow this pattern include *calf, elf, half, leaf, life, loaf, scarf, self, sheaf, shelf, thief, wharf, wife, wolf.*

b. Three words that come from Old English are made plural by adding *(r)en: brother-brethren, ox-oxen, child-children.*

c. A few singular nouns form the plural through a change of vowel sound and spelling: *goose-geese, tooth-teeth, foot-feet, mouse-mice, louse-lice, man-men, woman-women.* Young children commonly form these plurals by adding *s*, as *mans* and *foots.* Ask children to draw pictures to illustrate these singular and plural forms or to collect them from magazines. Then ask them to label the pictures.

d. A few nouns make no change to distinguish their plural forms. Many of these nouns name fish and other animals: *deer, fish, fowl, goldfish, moose, perch, sheep, shrimp, swine, trout.* Help students list animals whose singular and plural forms are the same. Then ask them to make individual posters or a group mural that pictures these animals.

5. The present tense of most verbs is formed in the same way that nouns are pluralized, by adding *s* for the "s" and "z" sounds (*hits, runs*) and *es* for the syllable /əz/ (*catches*). Most of the verbs that follow this pattern form the past tense by adding *ed* (*bat/bats/batted*). But not all of them: *hit/hits/hit.* And many young children have not yet worked out that pattern. It is a simple matter to spell verbs whose past tense forms require *ed,* and youngsters need only remember to write one *e* for verbs that end in *e* (*race/raced*) and to double a final consonant when a vowel immediately precedes it (*bat/batted*).

6. The word game Engineers encourages students in later primary grades to practice the word-building patterns of nouns, verbs, and root words. More important, the game illustrates that many words can be used as nouns and as verbs. (He scored a *run.* Let's *run* home.) The object is to make as many words as possible from a single root word. Say and write on the board a word such as *date.* Ask students to identify as many forms of that root word as they can, using plurals, tenses, and possessives. Thus, from *date* comes *dates* (plural), *dates* (verb), *dating,* and *dated.* Write these

words on the board. Be sure to discuss the several noun and verb meanings for *date*.

7. Roots and Branches, played like the game of Authors, develops an awareness of root words and suffixes. Make a deck of cards that contains ten to thirteen families of related words by choosing several root words such as *kick* and *cheer* to which suffixes can be added—from *kick* comes *kicked, kicking, kicker;* from *cheer* comes *cheered, cheering, cheerful.* You will need four cards for each family.

Deal out all the cards to the players, who then sort their cards into families. Each player in turn asks for a word card that will help to complete a "book" or four-card set of related words. For example, one player may ask another for the *kick* card. If the player has that card, he or she gives it to the first player, who may then ask another player for a card that belongs to a set he or she is trying to complete. If the player does not have the requested card, it becomes that player's turn to ask for cards. When a four-card word family has been collected, that set or book is laid down. Play continues until all sets have been completed. The winner is the player who has put down the largest number of completed books.

Alphabetizing and Using the Dictionary

The dictionary, that final arbiter concerning the correct spelling of words, is the most valuable tool a speller has. Dictionaries need to become our familiar and helpful lifelong companions, and this relationship rightfully begins in the early years of school. Most commercial spelling programs, as well as other programs in the language arts, provide many opportunities for students to practice using dictionaries, but here are a few activities that provide enjoyment as well as useful practice.

1. Although a knowledge of alphabetical order is not an aspect of spelling ability, it does have an important place in the study of spelling. In the first place, children need a knowledge of alphabetical order to locate words in the dictionary. In the second, the ability to alphabetize is an indication of an awareness of letter sequences. Finally, alphabetizing activities emphasize at least incidentally the initial sounds of words.

Ask students to arrange themselves in alphabetical order by the

beginning letters of their first names. Vary the activity by asking them to arrange themselves in alphabetical order on the basis of the beginning letters of their last names. Finally, ask those whose names begin with the same letter to arrange themselves according to the second letters of their names.

In an extension of this activity, ask students to identify classmates' names that begin with the same sound, contain the same vowel sound, or end with the same sound. Compare how those sounds are spelled in the respective names.

2. Categories such as animals, sports, foods (try ice-cream flavors!), flowers, and car models provide interesting raw material for alphabetizing practice. List with the help of the class, for example, all the car models that you can come up with: Dart, Omni, Pinto, Skylark, Citation, Accord, Horizon, Escort, Mustang, Lynx, Rabbit, Impala, Civic. Then, either individually or as a class, alphabetize the list.

3. Alphabetizing activites are easily developed in the classroom setting. Ask youngsters, for example, to arrange a number of objects in the classroom in alphabetical order: *book, chalk, desk, eraser.* Children will also enjoy making a classroom telephone directory or a directory of teachers in the school.

4. Make a set of cards using words from spelling assignments and including as many different beginning letters as possible. Shuffle the deck and deal five cards to each player, who places them faceup on the table in the order in which they were dealt. Place the remaining word cards facedown in a pile on the table. Each player in turn draws a card from the pile and replaces one of the cards he or she has on the table. The object of the game is to replace cards until all five cards are in correct alphabetical order wihout shifting the position of any card.

5. Select from a dictionary a word not likely to be known by the class and write that word on the chalkboard. The class then tries to determine its meaning, either orally or by writing probable definitions on slips of paper. Encourage students to attempt definitions that seem to fit the word, even to bluff if they are uncertain. The student who knows or stumbles on the meaning of the word gets to select the next word.

6. The tasks described below will encourage older students who are already familiar with alphabetical order to explore their dictionaries.

a. Look for and list words that contain doubled vowels: *aardvark, been, bee, genii, bamboo, vacuum.*

b. Look for and list words that end with double vowels: *agree, genii, bamboo.* Almost all of these will be words ending with *ee* or *oo.*

c. Look for and list words that end in vowels: *extra, game, ski, to, emu.* The final *u* is rarely used.

d. Look for and list words that contain double consonants: *cabbage, accord, add, fluff, egg, all, hammer, banner, apple, class, cotton, buzz.*

e. *Homographs* (words of different origin and meaning that are spelled alike, regardless of pronunciation) can also be the subject of dictionary search: *bass, fine, fair, lead, pool, scale.*

f. *Homophones* (words of different origin and meaning that are pronounced alike, regardless of spelling) may also be used: *air-heir-ere, alter-altar, to-too-two, rite-right-write, all-awl, made-maid.*

Sources Cited

Beers, James W.; Beers, Carol S.; and Grant, Karen. "The Logic behind Children's Spelling." *The Elementary School Journal* 77 (January 1977): 238-42.

Beers, James W., and Henderson, Edmund H. "A Study of Developing Orthographic Concepts among First Graders." *Research in the Teaching of English* 11 (Fall 1977): 133-48.

Gentry, J. Richard. "Early Spelling Strategies." *The Elementary School Journal* 79 (November 1978): 88-92.

Hall, Robert A., Jr. *Sound and Spelling in English*. Philadelphia, Pa.: Chilton Book Co., 1961.

Hanna, Paul R.; Hanna, Jean S.; Hodges, Richard E.; and Rudorf, Erwin H. *Phoneme-Grapheme Correspondences as Cues to Spelling Improvement*. Washington, D.C.: Government Printing Office, U.S. Office of Education, 1966.

Henderson, Edmund H., and Beers, James W., eds. *Developmental and Cognitive Aspects of Learning to Spell: A Reflection of Word Knowledge*. Newark, Del.: International Reading Association, 1980.

Hurwitz, Abraham B., and Goddard, Arthur. *Games to Improve Your Child's English*. New York: Simon and Schuster, 1969.

Read, Charles. "Preschool Children's Knowledge of English Phonology." *Harvard Educational Review* 41 (February 1971): 1-34.

Read, Charles. *Children's Categorization of Speech Sounds in English*. National Council of Teachers of English Research Report No. 17. Urbana, Ill.: National Council of Teachers of English, 1975a.

Read, Charles. "Lessons to Be Learned from the Preschool Orthographer." In *Foundations of Language Development: A Multidisciplinary Approach*, edited by Eric H. Lenneberg and Elizabeth Lenneberg, vol. 2, pp. 329-46. New York: Academic Press, 1975b.

Templeton, Shane. "Spelling First, Sound Later: The Relationship between Orthography and Higher Order Phonological Knowledge in Older Students." *Research in the Teaching of English* 13 (October 1979): 255-64.

Venezky, Richard L. "English Orthography: Its Graphical Structure and Its Relation to Sound." *Reading Research Quarterly* 2 (Spring 1967): 75-105.

Walsh, Len. *Read Japanese Today*. Japan: Asia House Publishers, 1967; Rutland, Vt.: C.E. Tuttle, 1969.

Zutell, Jerry. "Spelling Strategies of Primary School Children and Their Relationships to Piaget's Concept of Decentration." *Research in the Teaching of English* 13 (February 1979): 69-80.

Selected Bibliography for Teachers and Students

The achievement of spelling ability is the outgrowth of numerous and sustained involvements with our written language along with a sense of pleasure and satisfaction from that involvement. The games and activities we have discussed can help to bring about that involvement and hopefully will suggest other experiences with spelling that students will enjoy. Books that provide additional information about learning to spell and describe many more activities for classroom and individual use are listed below as are commercial games that can contribute to the young learner's growing knowledge about English words and their spellings.

For Teachers

Theory and Research Reports

Frith, Uta, ed. *Cognitive Processes in Spelling.* London: Academic Press, 1980.

Henderson, Edmund H., and Beers, James W., eds. *Developmental and Cognitive Aspects of Learning to Spell: A Reflection of Word Knowledge.* Newark, Del.: International Reading Association, 1980.

Kavanaugh, James F., and Venezky, Richard L., eds. *Orthography, Reading, and Dyslexia.* Baltimore, Md.: University Park Press, 1980.

Books Containing Word Games

Ayers, Donald M. *English Words from Latin and Greek Elements.* Tucson: University of Arizona Press, 1965.

Borgmann, Dmitri A. *Beyond Language.* New York: Charles Scribner's Sons, 1967.

Borgmann, Dmitri A. *Language on Vacation.* New York: Charles Scribner's Sons, 1965.

Carter, Candy, and Rashkis, Zora, eds. *Ideas for Teaching English in the Junior High and Middle School.* New edition. Urbana, Ill.: National Council of Teachers of English, 1980.

Dale, Edgar, and O'Rourke, Joseph. *Techniques of Teaching Vocabulary*. Palo Alto, Calif.: Field Educational Publications, 1971.

Espy, Willard R. *An Almanac of Words at Play*. New York: Clarkson N. Potter, 1975.

Espy, Willard R. *Another Almanac of Words at Play*. New York: Clarkson N. Potter, 1980.

Espy, Willard R. *The Game of Words*. New York: Grosset and Dunlap, 1972.

Grant, Niels, Jr. *Word Games*. Belmont, Calif.: Fearon Publishers, 1971.

Hurwitz, Abraham B. and Goddard, Arthur. *Games to Improve Your Child's English*. New York: Simon and Schuster, 1969.

Mulac, Margaret E. *Educational Games for Fun*. New York: Harper and Row Publishers, 1971.

Reader's Digest Editors, eds. *Word Power*. New York: Berkley Books, 1980.

Shipley, Joseph R. *Word Play*. New York: Hawthorn Books, 1972.

For Students

Books and Other Written Materials

Hart, Harold H. *Grab a Pencil*. New York: A & W Publishers, 1980.

Horowitz, Edward. *Word Detective*. New York: Hart Publishing, 1978.

Irwin, Keith Gordon. *The Romance of Writing from Egyptian Hieroglyphics to Modern Letters, Numbers, and Signs*. New York: Viking Press, 1956.

Manchester, Richard B. *The Mammoth Book of Word Games*. New York: Hart Publishing, 1976.

Manchester, Richard B. *The 2nd Mammoth Book of Word Games*. New York: Hart Publishing, 1978.

Nurnberg, Maxwell. *Fun with Words*. Englewood Cliffs, N. J.: Prentice-Hall, 1970.

Ogg, Oscar. *The 26 Letters*. New York: Thomas Y. Crowell, 1948.

Commercial Games

Boggle. Parker Brothers.

Big Boggle. Parker Brothers.

Probe. Parker Brothers.

Scrabble. Selchow and Righter Co.

Scrabble/Dominoes. Selchow and Righter Co.

Scrabble Scoring Anagrams. Selchow and Righter Co.

Scrabble Sensor (electronic word game). Selchow and Righter Co.

Speak and Spell (electronic word game). Texas Instruments.