Spelling Progress
QUARTERLY

Spring/Summer 1987
Volume 3, Numbers 2 and 3

Address editorial correspondence to• Address subscriptions and change of address to:
Spelling Progress Quarterly
823 Church Street
Honesdale. PA 18431
Columbus. OH 43216

Spelling Progress Quarterly
2300 West Fifth Avenue
P.O. Box 16278

Design by Jeffrey E. George

In This Issue

EDPRESS

About the Authors

Edgar Dale (1900-1985) was an outstanding scholar, educator, and mentor. He was a pioneer in readability measurement, co-authoring a formula with Jeanne Chall. Dr. Dale's love of words and extensive research resulted in two remarkable books, *A Living Word Vocabulary* and *Techniques of Teaching Vocabulary,* both of which he co-authored with Joseph O'Rourke. Dr. Dale was a prolific writer of articles for educational and research journals.

Jan Mickler is director of the Bright School Thinking Project, Chattanooga, Tennessee. Dr. Mickler trains public and private school teachers to design instruction that is compatible with children's natural thinking and learning strategies. Dr. Mickler has developed **and** is field-testing a conceptually based spelling program, the Relational Design for Spelling. See also: **Fall 1985/Winter 1986**. Item 2.

Mary S. Rogers is a professor of reading and language arts in the College of Education at the University of Alabama.

Gayle Westover is a sixth-grade teacher in the Atwood Elementary School, Atwood, Indiana. She has been teaching for ten years.

Elizabeth Hagner is presently an academic writer/editor for the University of New Hampshire. She formerly taught at the intermediate level in Durham, New Hampshire, and Cherry Hill, New Jersey.

[Spelling Progress Quarterly, Volume 3, Numbers 2 & 3. Spring/Summer 1987. Page 2 in the printed version.]

1. From the Editor

Walter B. Barbe

All five articles in this issue present practical, usable ideas for dealing with problems in spelling and making spelling instruction more effective. In the lead article, which first appeared in print in 1933, Edgar Dale described the problems, stated as questions, that he thought confronted teachers who wished to revise their spelling curriculums, and he suggested ways to resolve the problems. As you are reading this article, ask yourself whether there are similar problems in teaching spelling today and whether Dr. Dale's methods of dealing with them would still be applicable.

Much has been written over the years about the test-study method in spelling instruction. Jan Mickler takes a look at this approach and provides steps for students to use in personalizing both the tests and the study of words to suit their spelling styles.

Mary Rogers calls our attention to the need for a close, realistic connection between spelling and reading vocabulary and between spelling and writing activities to close the gap and improve communication skills. Escaping the "spelling blahs" at the middle school level is the subject of Gayle Westover's article. She has discovered some techniques to get away from the dull, boring routine of phonics drill and to make spelling meaning and challenging.

According to Elizabeth Hagner, if the spelling of a particular sound is not one of the most usual, many students do not know what to do next. She details a method of conditioning students to search for possible spellings of sounds in our language so that they will be equipped to handle variant spellings of sounds.

Notice to subscribers:
The Spelling Progress Quarterly is now a sponsored publication, and it will be distributed without charge for the immediate future.

[Spelling Progress Quarterly, Volume 3, Numbers 2 & 3. Spring/Summer *1987. Page 1 in the printed version.]*

2. The Curriculum in Spelling

Edgar Dale
This article originally appeared in the *Educational Research Bulletin* of The Ohio State University in issue No. 6, Vol. XII, dated May 10, 1933.

The purpose of this article is to sketch briefly some of the critical problems faced by those who are revising their spelling curriculum. These problems lie in major areas, and each problem can be stated as a question.

Setting Goals

The first question is: What is the objective of spelling instruction, and what social institution is best fitted to bear the major responsibility for the teaching of spelling?

Curriculum makers must avoid the mistake of emphasizing as the goal of spelling instruction the correct arrangement of letters in some set number of words. Instead, correct spelling must be seen as an aid in the attainment of the crucial objective that all language arts share, namely, the skillful communication of significant experience. A high degree of technical skill in saying nothing will usually result when technical correctness is emphasized as an end in itself, and the quality of the experience to be communicated is underemphasized or even wholly neglected. We must avoid developing superior means for achieving inferior ends.

What standards of perfection should be demanded in the various types of written communications that individuals are likely to make? Perfection in all writing is a psychological impossibility and is not demanded by society. Further, many of the social penalties for misspelling conjured up by teachers and parents are figments. For example, the word *consensus* is misspelled in the introduction to the *Morrison Speller,* Book III. An article by F. S. Breed in the *Chicago Schools Journal* is entitled "The Limitations of the Social Principal in Curriculum Making." It is hard to believe that any dire penalties have been visited on the author of the speller or the proofreader for their errors. I am not maintaining that no penalties attach to poor spelling. On the contrary, penalties for poor spelling are sometimes unusually severe. It is important, therefore, that students be honestly informed about the nature of the penalties that society inflicts on poor spellers.

Curriculum makers must, therefore, secure all the possible evidence regarding desirable standards of accuracy and then make a decision. They should set up different standards of accuracy for various types of writing; for example, a study made in Milwaukee shows that the average high school English theme had three mistakes in every thousand running words, or a standard of 99.7 per cent correct. Letters of application doubtless demand a higher standard than this personal letters might conceivably be lower. Since those in control of spelling instruction are verbally minded, usually possess a large vocabulary, and read a great deal, there is danger that they may demand perfectionist standards of many who have meager vocabularies, who will write little, and who will not be offended by the errors that they find in written communications.

We need to make students aware that inaccurate spelling may interfere with skillful communication either by disturbing the sensibilities of the reader, even though the sense of what the writer is trying to say is easily determined, or by disguising the meaning so that the reader may not be able to determine what the writer intends to convey. Amusing examples of inaccuracies are found in the following sentences gleaned from students' compositions:

The perfume smelled offal sweet.
The Crusaders belonged to a religious sex.
You put lice oil on a cut.
Chinese people worship their aunts' sisters.

Is the school the logical agency for the teaching of spelling? The home is seemingly its only possible competitor. Parents can with advantage assist children with their spelling, especially when it is highly individualized through test-study methods; to this, many teachers will readily agree. The astute curriculum maker will not fail to enlist the aid of able parents in teaching their children how to spell. It is apparent at present, however, that the school must shoulder almost the entire responsibility for the teaching of spelling.

Choosing Spelling Words

The second question is: What specific words should be included in the spelling curriculum?

The solution to this problem is more difficult than we would be led to believe by many spelling investigators. The students should be taught in school to spell those words that they need to convey their significant experiences—words that they cannot learn to spell without assistance. This gives us two standards for inclusion: the need for the word in the student's writing and the difficulty of spelling the word. The first standard requires careful studies of spelling needs at all ages and grade levels. The initial difficulty of the words for groups can be determined through testing reliable samplings. The specific difficulty for an individual can be discovered only by testing that individual. The major function of the school will be to teach those commonly needed words that are misspelled by significant portions of the group. Assistance in meeting spelling needs that are highly individual will be met largely by aiding the student in self-help methods.

The size of the spelling curriculum is conditioned by the number of spelling words that can be learned without direct study. Breed points out that "second-grade children can spell half the words in their grade in advance of study, and fifth-graders, three-fourths of the fifth-grade list." This is explained by transfer, by the training in spelling that may be secured in reading and writing activities, and by recalling words that were probably learned in an earlier grade, in a previous speller, or an earlier course. Archer, who studied transfer from a base form to derived forms using s, *ed,* and *ing,* points out that "transfer occurred almost perfectly from the base form to the other derived forms of the word group."

In making up spelling lists, proper disposition must be made in reference to those words that show high degrees of transfer with certain suffixes and prefixes. Archer's study ought to be examined carefully for these data.

The extent to which the individuals who are being served by the spelling curriculums have a common vocabulary is another important consideration. F. P. O'Brien found, through an analysis of 1,812 compositions written by students from the seventh to the twelfth grades, that approximately 90 per cent of the words were included in the first thousand of the Thorndike Teacher's Word List. Witty and Fry discovered that in a total of 340 compositions written by college students about 85 per cent of the words were in the first thousand of the Thorndike list, about 90 per cent were in the first and second thousand, and 93 per cent were in the first, second, and third thousand. In addition, we have Horn's data, presented in Table 1, relative to approximately one million running words from adult writing in which he points out the relationships among classes of the most frequently used words and the percentage each class was of the total number of words that were tabulated. The table is to be read as follows: the 100 words most commonly used in this sampling of adult writing constituted 58.83 per cent of all the running words, the 500 words most commonly used constituted 82.05 per cent, and so on.

TABLE 1
CONTRIBUTION OF THE MOST USED WORDS TO THE TOTAL NUMBER OF RUNNING WORDS

Different Words	Percentage of Total	Different Words	Percentage of Total
(1)	(2)	(1)	(2)
100	58.83	3,500	98.30
500	82.05	4,000	98.73
1,000	89.61	4,500	99.00
1,500	93.24	5,000	99.20
2,000	95.38	5,500	99.33
2,500	96.76	6,000	99.46
3,000	97.66	6,500	99.53

Let us assume that a knowledge of the spelling of 1,000 common words will enable a student to get 90 per cent of the words in his or her writing correct. Let us infer from Breed's data, presented in an earlier section of this article, that the students will be able to spell half of the remaining 10 per cent of these words without direct study. This will give a spelling accuracy of 95 per cent. Or, by use of a dictionary, the student might look up all of the words that he or she had not studied, thus securing an accuracy of 100 per cent.

We can see at once that 1,000 words is an insufficient number for the average adult. One must look up too many words. We note from the table that if one knows the most common 2,000 words, the average adult will be able to write with slightly more than 95 per cent correctness. If the person can get 50 per cent of the remaining words correct without study, that means about 98 per cent of the needed words will be correct. It is likely that since Horn's data are from adults, the 2,000 words most frequently written by children will compose a higher percentage of their total of running words. This inference is without evidence, however.

The size of the common curriculum to be studied by all students recommended by the writer is considerably smaller than those recommended by Breed, who offers 3,481 words, and Horn, who presents 4,110 words. The writer's objections to such a large required list are: It assumes a far larger common writing vocabulary than we have evidence exists; it requires much time and practice on words that will be used rarely; and it emphasizes practice on words not a part of the active vocabulary of the pupils.

The writer wishes to make clear that his suggested prescription of a smaller common word list is not made with the belief that students will need to write only this number of words. Indeed, the contrary is true; they will write many words not included in this common word list. Further, effective communication demands a writing vocabulary perhaps a good deal beyond that which we are now securing in schools. The writer's recommendation is, therefore, not that each individual be taught to spell fewer words, but rather that the list of words required of all students as a group be reduced. The individual student, therefore, in my opinion, perhaps ought to have a wider spelling vocabulary than he or she now has. But the student will learn that vocabulary, not through the study of a large list of prescribed words, but rather through such study as individual needs require.

This type of curriculum puts more responsibility on the teacher. It may be that it would be better, in general, to have a larger common list than to reduce the list as the writer suggests. Any school, however, that does develop a smaller required list can easily experiment with the results to see whether the typical unsupervised writing of the student suffers through the introduction of this plan. If it does, a larger list can be supplied.

Placing Spelling Words in Grades

The third question is: How should these words be graded?

A commonly used principle for grading spelling is the degree of the initial difficulty of the word. Initial difficulty is interpreted as the percentage of students that miss the word when the investigator gives the tests. Data for these initial difficulty scores can be found in the Ayres-Buckingham Scale, the Iowa Spelling Scale, and the Sixteen Spelling Scales.

Reviews are then utilized for each of the words on the basis of this index of initial difficulty. This method of reviewing words involves the assumption that the initial difficulty of a word is highly correlated with the length of time that it takes to learn it and with the likelihood of later misspellings of that word. This point of view is not wholly defensible. Robert F. Thompson states in his doctor's thesis that in the group of words he selected for study "there are not certain identifiable words which are marked by learning difficulties." In other words, the length of time it takes a student to learn to spell a word has little relation to the percentage of students who misspelled the word on the initial dictation. He does point out, however, that "this reservation must be made. There are a few words, which for reasons known and unknown, cause difficulty at certain grade levels. [The word] *already,* for example, in the Iowa Scale, shows a gain of only 1 per cent from the fourth to the fifth grade and a loss of 18 per cent from the sixth to the seventh grade."

The writer is inclined to the belief that the grouping of the words on the basis of the student's experience offers a much better method of grading spelling vocabulary than the more mechanical principle of grading on the basis of initial difficulty. If spelling instruction is to aid the student in communicating his or her significant experiences skillfully, then this instruction must be closely correlated with the language experience of the student. Words for group study should be introduced, therefore, at that point where they enter frequently into the writing vocabulary of the student.

If experimental inquiry demonstrates that these experiences normally group themselves into conversation about and writing about birds, trees, animals, transportation, home, weather, playmates, games, and clothing, then we shall have a spelling curriculum in which the words are thus grouped.

Techniques of Teaching

The next question is: In what learning activities ought the students to engage in order that they may reach the goal set up for spelling, namely, the skillful communication of significant experience?

The curriculum maker will want to examine the techniques for spelling instruction that have been set up by well-known workers in this field. For this purpose they should refer to the spelling instructions given by Gates, by Breed, the spelling instructions presented by the authors of the *Horn-Ashbaugh Spellers,* and other authorities. Mr. Horn and Mr. Breed include a step not given by a number of other writers, namely, an exercise in pronunciation and explanation of the meaning of unknown words before any tests are given.

The most valid test of spelling ability is the degree to which reliable samplings of the individual's typical and unsupervised writing are found to be free from error.

The writer is of the belief that these general rules which all students are expected to follow are in need of considerable experimental verification and study. It appears likely that there will be, even in classes of students in a single room, enough psychological differences to make it possible to develop certain differentiations in the spelling methods. For example, all of the spelling instructions ask the student to continue writing the word until he or she knows it. The writer is inclined to believe that experimentation with the writing of such words several times beyond the point where the student is just able to write them correctly might disclose certain values in carrying the learning beyond the threshold of just being able to spell the words.

The curriculum maker is also concerned with the relative merits of the test-study and the study-test methods. It should be pointed out, first of all, that there are no striking differences between the results of

the two methods. The major benefit of the test-study method appears to be in the better individualization of instruction, with consequent better utilization of time. Further, the test-study method is far more popular with students than the study-test method. If the test-study method is used, however, great care must be taken to insure that students are able to study according to the prescribed method. Mr. Breed recommends that in the beginning of each year the study-test method only be used for the first month of instruction. The procedure is to be highly recommended since poor study methods in spelling are the rule, not the exception. Through the learning of a spelling method, and this will include the use of the dictionary, the students learn to become self-reliant in their spelling.

Specific spelling instruction and training in a method of attack on new words are not enough, however. Students must be taught to see accurate spelling as an important part of a larger whole, namely, the skillful communication of significant experience. The teacher who emphasizes only the correct spelling of words in spelling lessons and neglects to develop high spelling morale in the written communications of the student has failed in attaining the spelling objective. Paradoxically, the best spelling training is probably given outside the time devoted to the spelling lesson.

Testing

The fifth question is: How shall we test the effectiveness of the spelling instruction?

The answer that seems to be given by the typical test-maker is to take a sampling of the words that have been taught, secure norms, and compare the individual with the norms. While there may be some value in such a process, it is justified only if the aim of the spelling instruction is to teach the students how to spell words out of context, and if we are not concerned with their use of these words in communications that they write when they are on their own. If the writer's stated objective for spelling instruction is valid, then such a method of testing is invalid. The most valid test of spelling ability is the degree to which reliable samplings of the individual's typical and unsupervised writing are found to be free from error. Students may make a low score on a column dictation test, yet be so sensitive to the problem of good spelling that they always use a dictionary when writing, and are enabled thereby to write with almost complete freedom from error. It must be pointed out, however, that once the most valid test has been discovered, the good test-maker attempts to achieve short cuts. If these short cuts, which will take less time and effort, correlate highly with the most valid types of tests, we can then use the shorter test.

References

Archer, Clifford. "Transfer of training in spelling." Elementary English Review 5 (February, 1928): 59.

Ashbaugh, E.J. The Iowa spelling scales: their derivation. uses. and limitations. Journal of Educational Research Monographs, no. 3. Bloomington, Illinois: Public School Publishing Company, 1922.

Breed, F.S. How to teach spelling. Chicago: F.A. Owen Publishing Company, 1930.

Gates, Arthur I. "An experimental comparison of the study-test and test-study methods in spelling." Journal of Educational Psychology 22 (January, 1931): 2.

Horn, Ernest. "The curriculum for the gifted: some principles and an illustration." Twenty-third Yearbook of the National Society for the Study of Education. Bloomington, Illinois: Public School Publishing Company, 1924.

Hudelson, Earl; Stetson, EL.; and Woodyard, Ella. "Sixteen spelling scales standardized in sentences for secondary schools." Teachers College Record 21 (September, 1920): 337-91.

O'Brien, F.P. "The vocabulary of high school pupils." Journal of Educational Research 11 (May, 1925): 334-50.

Thompson, Robert F. The effectiveness of modern spelling instruction. Contributions to Education, no. 436. New York: Teachers College, Columbia University, 1930.

Witty, Paul A., and Fry, Mabel. "The vocabulary content of compositions written by college students." - Journal of Educational Research 19 (February, 1929): 135-38.

[Spelling Progress Quarterly, Volume 3, Numbers 2 & 3. Spring/Summer 1987. Page 7 in the printed version.]

3. Metacognitive Approach to Spelling instruction

Jan Mickler

The traditional approach used to teach spelling has been to assign students a weekly list of words to learn. In addition, students are usually assigned the exercises in a unit and are often encouraged to use a step-by-step study method that emphasizes the following steps:

Look at the words. Say the words. Spell the words. Write the words. Check the words.

Various forms of this study method appear in spelling series as the primary strategy for learning to spell new words. The method has been popular for many years because it offers a seemingly direct set of behaviors that focus the students' attention on the sequential ordering of letters. Such a focus if used by itself, however, is too narrow and does not provide for the development of relationships that promote efficiency in learning to spell.

Learning to spell is more than memorizing and writing the correct sequence of letters. Rather, children learn to spell by gradually becoming aware of those linguistic relationships that structure how words are spelled. These relationships reflect phonemic/ graphemic, semantic, and/or etymological features of oral and written language.

Put simply, children learn to spell by constructing a working understanding of *why* words are spelled as they are, and they learn *how* to select spellings for new words based on the reasons they have constructed. A spelling program, therefore, should help students discover through induction the reasons why words are spelled as they are. A spelling program should also help students become sensitive to how they select spellings for words. This sensitivity develops as students evaluate the correctness of their spelling attempts and as they apply corrective measures to prevent future misspellings.

One instructional context that promotes these heuristic strategies is the self-corrected pretest. The effective use of a pretest, in which students locate and correct their spelling errors, is one of the few instructional practices widely recommended in the spelling literature.

Moreover, in a recent review of published spelling series, Mickler and Rowell found that nine of ten major spelling series recommend the use of a pretest as one instructional strategy, and seven of the nine further suggest that students correct their mistakes prior to studying the words. Lacking in all of the series, however, is a framework to help students learn to be aware of *when* they make spelling mistakes, *what kind* of mistake is made, and *how to* correct the mistake so that a recurrence is prevented in the future.

The learning of "when, what kind, and how to" are important metacognitive strategies that focus the attention of spellers on understanding what they are thinking about and how they are implementing their thinking. In this context of self-awareness, correct spelling is a product of consciously applied reasoning strategies that focus on spelling-related linguistic relationships. In addition, students learn to predict the correctness or incorrectness of their spelling attempts, an awareness that is central to the process of editing first drafts of their written work.

The following directions (written for students) provide an example of how the self-corrected pretest can be used to develop these metacognitive strategies.

Pretest for Prediction, Analysis, and Correction

1. Have a partner pronounce each word on your spelling list. Have your partner use each word in a sentence. Write each word in a column on your paper.

2. After you have written all of the words on your paper, indicate your understanding of the meaning of each word. If you understood the meaning of the word before your partner used it in a sentence, put a "#" to the left of the word. If you were not familiar with the meaning of the word, put an "x" to the]eft of the word. Do this with each list word.

3. Now you will determine how sure you are about the correctness of each of the words you spelled. To the left of the "#" or the "x" beside each word, write a number from 1-4 to indicate the degree of sureness you have about the correctness of each word. Use the following scale.

Scale Meaning

1. You are absolutely *sure* that the word is spelled correctly.
2. You *think* the word is spelled correctly but are not sure.
3. You *think* the word is spelled incorrectly but are not sure.
4. You are absolutely *sure* that the word is spelled incorrectly.

4. For *each* word, compare your spelling with the correct spelling from the word list used by your partner. Be sure to look carefully at the letters that occur in the list word (the word that your partner pronounced) and the spelled word (the word you wrote on your paper). If you spelled the word correctly, put a circle around the word. If you misspelled the word, write the correct spelling to the right of the word. Again, be sure that you have carefully written the correct letters in the proper order. Do this with each of your words.

5. For each *misspelled* word, you must decide why the segment you misspelled is spelled as it is in the correct version of the word. Compare the correct spelling with your spelling and decide how they are different.

6. For each misspelled word, you must also be able to explain to your teacher or to a classmate in what way you misspelled the word and how your correction will prevent a future misspelling.

7. Finally, for each of your words, decide if your prediction of correctness was accurate. Put a box around those words for which you successfully predicted the correctness or incorrectness of spelling. For example, if you have a 3 or a 4 to the left of a word you misspelled, box that word. If you have a 1 or a 2 to the left of a correctly spelled word, box that word.

Prediction Analysis Strategies

The degree of a student's predictive accuracy can be determined by the percentage of words with boxes around them. This ratio represents the sensitivity of the student to the spelling correctness of each list word on that particular date. This sensitivity index allows teachers to differentiate between poor spellers who are aware of their misspellings and poor spellers who appear to be unaware of their misspellings. It also indicates the effort that students, especially poor spellers, must expend to become more sensitive to the quality of their spelling attempts.

The focus of instruction can be on those words that are not boxed. Is the word unfamiliar to the student—that is, does the student have difficulty recognizing the word in a reading passage or using the word in speaking or writing? If the word does indeed lack meaning for the student, the spelling difficulty is most likely attributable to that semantic factor.

If meaning is not the contributing factor, what does the error analysis suggest?

Error Analysis Strategies

In order to learn how to analyze their spelling mistakes, students (and teachers) must first understand the reasons that underlie why words are spelled as they are. The focus must be on discerning the predictable linguistic relationships on which the spelling of words depends.

In many instances, there is a *direct* relationship between the constituent phonemes in the words and the graphemic options that represent these phonemes. In other words, the sounds heard in words are the direct clues to the selection of letters as phonemic representations. The consonant phoneme, consonant blend phoneme, and consonant digraph phoneme (for example, /s/, /st/, /sh/, respectively) are usually represented by one or two graphemic options. Vowel phonemes (/ē/) and vowel diphthong phonemes (/oi/) are usually represented by two or more graphemic options. When spelling errors occur in these "regularly spelled" words (or syllables), this may indicate a need for instruction in relationships between specific phonemes and their graphemic options. Teachers must also give consideration to the pronunciation by students. Because the tendency to "spell what you say and hear" is natural, some misspellings may reflect a student's mispronunciation of the word.

In addition to these direct phonemic/graphemic relationships, there are *indirect* phonemic/graphemic relationships that have resulted from changes in pronunciation over centuries of usage. In such cases, a phonemic feature of a word does not have a direct relationship to the appropriate graphemic option. Rather, the more direct phonemic/graphemic relationship occurs in another, semantically related word or in an historical version of the original word.

The most common examples of indirect phonemic/graphemic relationships are those words with affixed roots. The resulting word contains an altered pronunciation that does not provide a clue to the appropriate graphemic option. Rather, the direct relationship is found in a semantically related word. An example of

this relationship can be seen in the cluster of words related to the word *grade,* such as *gradual, gradate, graduation,* and *gradable.* In these semantically related words, the altered pronunciations mask the direct phoneme/grapheme relationship in certain syllables. The speller, therefore, must think of a corresponding syllable in a semantically related word in order to select the appropriate graphemic option.

Many spelling errors result from a student's lack of understanding of this indirect relationship between sounds and letter options. Mistakes such as *oppisition* for *opposition (oppose) relashun* for *relation (relate),* and *defanition* for *definition (define)* are indicative of the need for students to learn that many words related by meaning are similarly spelled despite pronunciation changes.

Summary

To summarize, this metacognitive approach to pretesting directs the students' attention to several aspects of spelling. First, the students are asked to predict and confirm the correctness of their spelling attempts. Second, their attention is directed to the correct version of the word (or word *segment),* and they are asked to discern the reasons why it is spelled as it is. Finally, following this analysis, students are asked to notice how they misspelled the word and what they must do to prevent future misspellings. Moreover, as part of these evaluation strategies, students are encouraged to discuss and explain the decisions they make.

The development of a comprehensive system for metacognitive error analysis requires a broader discussion that transcends the scope of this article. The formative focus should be on developing an understanding of the many examples of both direct and indirect phonemic/graphemic relationships. Additionally, a diagnostic system should be designed to determine which relationships are and are not understood and used by students as they attempt to spell. Finally, students themselves should learn to use comparative analysis to discern and describe the kinds of spelling mistakes they make so that their corrections are the result of thoughtful analysis and planning.

As complicated as the solution may appear to be in relationship to the problems encountered by spellers, however, this metacognitive approach to spelling instruction is a far better alternative to the traditional emphasis on the rote memorization of letter sequences of words from spelling lists. Extending the traditional step-by-step study method, this approach focuses on intrinsic linguistic relationships as the fundamental study steps to spelling. Because the approach presents students with the primary responsibility for learning, it can be used by them in many learning contexts besides formal spelling instructional time.

Note

The writer would like to thank Dr. G. Glennon Rowell for his insightful critique of and suggestions for this article.

References

Allred, R.A. *The application of research findings.* ERIC Document Reproduction Service No. ED 135 003. Washington, D.C.: The National Education Association, 1977.

Cotton. K. *Effective practices for spelling instruction: Literature synthesis.* ERIC Document Reproduction Service No. ED 219 788. Portland, Ore.: Northwest Regional Education Laboratory, 1982.

DiStefano, P.P., and Hagerty, P.J. "Teaching spelling at the elementary level: a realistic perspective." *The Reading Teacher* 85 (1985): 373-377.

Dunkeld, C., and Hatch, L. "Building spelling confidence." *Elementary English* 52 (1975): 225-229 247,

Edwards, J.M, "Teacher knowledge of spelling research, instructional methods, and spelling ability." Ph.D. diss., University of Northern Colorado, Greeley, 1983.

Fitzsimmons, R.J., and Loomer, B. *Spelling: Learning and instruction—research and practice.* Des Moines: Iowa State Department of Public Instruction, 1978.

Gerritz. K.E. "First graders' spelling of vowels: An exploratory study." Ph.D. diss., Harvard University, 1975.

Goyen , J. D., and Martin, M. "The relationship of spelling errors to cognitive variables and word type." *British Journal of Education Psychology* 47 X1977):268-273.

Graham, D., and Miller, L. "Spelling research and practice: A unified approach." *Focus on Exceptional Children* 12 (1979): 1-16.

Heald-Taylor, B. G. "Scribble in first grade writing." *The Reading Teacher* 38 (1984): 4-9.

Henderson, E. W., and Beers, J. W. *Developmental and cognitive aspects of learning to spell.* Newark, Del.: International Reading Association, 1980.

Horn. T. D. "Spelling." ed. Monroe, W. S. *Encyclopedia of Educational Research.* New York: Macmillan, 1969.

Lesner. J. "The effect of pupil-corrected test and written comments on learning to spell in the upper elementary grades." Ph.D. diss., University of California at Los Angeles, 1967.

Mangieri, J. N., and Baldwin, R. S. "Meaning as a factor in predicting spelling difficulty." *Journal of Educational Research* 72 (1979): 285-287.

Marino, J. L. "Children's use of phonetic, graphemic, and morphophonemic cues in a spelling task." Ph.D. diss., State University of New York at Albany, 1978.

Mickler, M. J. "A study of teacher application and knowledge of the components of a research-based model of spelling instruction." Ph.D. diss., The Florida State University, Tallahassee, 1986.

Mickler, M. J., and Rowell, C. G. [Evaluation of commercial spelling series]. Unpublished raw data, 1987.

Plessas, G. S., and Dison, P. "Spelling performance of good readers." *California Journal of Educational Research 16* (1965): 14-22.

Read, C., and Hodges, R. "Spelling." ed. Mitzel, Harold E. *Encyclopedia of Educational Research.* New York: Macmillan, 1982.

Rowell, C. G. "Don't throw away those spelling test papers yet." *Elementary English* 52 (1975): 233-236.

Simmons, J. L. "The relationship between instructional level in spelling and the instructional level in reading among elementary school children." Ph.D. diss., University of Northern Colorado, Greeley, 1978.

Stetson, E. G., and Boutin, F. J. "Evaluation of twelve elementary spelling programs using the spelling program effectiveness scale (SPERS)." ERIC Document Reproduction Service No. ED 233 339. Paper presented at the National Reading Conference, Clearwater, Fla., 1982.

Templeton, S. "Synthesis of research on the learning and teaching of spelling." *Educational Leadership* 44 (1986): 73-78.

Wiseman, D. L. "Helping children take early steps toward reading and writing." *The Reading Teacher* 37 (1984): 340-345.

[Spelling Progress Quarterly, Volume 3, Numbers 2 & 3. Spring/Summer 1987. Page 10 in the printed version.]

4. Connecting Spelling with Reading, Writing, and Real-Life Experiences

Mary S. Rogers

Most educators would agree that spelling proficiency is essential to clear, literate communication. Yet, in some schools, spelling instruction is not linked to other communication skills. As a result, many students are unable to transfer the spelling process to reading and writing.

A recent observation by a young second-grade teacher illustrates the problem. Her comment was: "Most of my children learn to spell the weekly word list in the second-grade spelling book that we are required to use, but, thirty minutes after the spelling test on Friday, many of them do not recognize some of those same words when they see them in their social studies book or their basal reader."

During May of the 1984-85 school year, a doctoral student at the University of Alabama collected writing samples from 200 randomly selected sixth graders in a North Alabama school system. Her studies of the writing samples included an analysis of spelling errors. She found a pattern of errors in students' inappropriate use of homophones (e.g., *their-there, to-too, won-one*). Other spelling errors appeared to be random and unpredictable. The sixth-grade students seemed to be as likely to misspell words that had been included in their direct spelling instruction as they were to misspell words that had not been.

The problem persists into adulthood, as shown by the spelling errors recorded from the written work of college students majoring in elementary education. Six of thirty-three students confused homophones; five students misspelled *separate;* three students misspelled *recommend;* and three students misspelled *category.* Even after their spelling was corrected, the same students repeated the same spelling errors. Yet, in their precollege education, these students had all received instruction in which the correct spelling of these misspelled words had been given special emphasis.

... no clear relationship has been established between spelling instruction and the "real-life" uses of language.

It is obvious, then, that some students do not transfer the correct spelling of words from spelling activities to reading and writing activities. It seems that when these students "learn" to spell words out of context, by and large, they are engaging in meaningless memorization which provides for little retention. Some students learn to recognize certain words through this process, but for other students there is little carry-over from memorizing the spelling of a word to later writing it correctly and recognizing the word in reading material. What instructional recommendations can be made to remedy this problem?

More teachers need to individualize spelling instruction. Far more teachers group students by achievement level for reading instruction than for spelling instruction. More often, within a given grade, spelling instruction is provided using the same spelling book and the same spelling list for all students at the same time and in much the same way. Publishers' instructions for individualization are frequently ignored.

Consequently, students may be assigned to do tasks that are too difficult for them, and they may be unable to read the directions and/or understand what they are to do in their spelling texts.

Selection and placement of spelling words should be a significant concern to teachers. Teachers need to scrutinize the spelling material they use to determine whether they match their particular group of students and individual students within the group. Spelling instruction should be based on careful consideration of each student's ability to recognize words, to *use* the sound-symbol relationships presented, and to understand the meaning of the words.

One reason for students' not transferring the spelling process to writing activities might be that no clear relationship has been established between spelling instruction and the "real-life" uses of language. Too often students are not provided enough opportunity to write and to transfer the use of words into real situations—situations in which they can sense a purpose for writing and can see the necessity for accurate spelling.

In addition, students are often not held accountable for the quality of their writing, Proofreading activities are more likely to be part of contrived workbook-type activities than integrated into real writing situations. Teachers must communicate to students, both verbally and by action, that no writing product is to be considered finished until the writer has meticulously proofread it.

A close, realistic connection between spelling and reading vocabulary and between spelling and writing activities would close a gap in students' instructional programs and improve their communication skills. When students learn to spell words that are part of their reading, writing, and speaking vocabularies, they experience success in meaningful learning and more permanent retention.

[Spelling Progress Quarterly, Volume 3, Numbers 2 & 3. Spring/Summer 1987. Page 12 in the printed version.]

5. The Challenge: Teaching Spelling in the Sixth Grade

Gavle Westover

As a sixth-grade teacher, I sometimes wonder why it is that the students who get A's in spelling are so often poor writers. My students do fine on spelling tests, and most of them receive A's or B's in spelling on their report cards. Yet many of these same students cannot transfer what they have learned from their lessons in spelling to their writing. They have mastered the *system* we have set up for teaching spelling, but they have not really learned how to spell where it counts the most, in their writing.

Why are so many of today's students unable to spell? Is it because we have set up spelling as an isolated, twenty-minute-a-day subject? Is it because the spelling program does not challenge students enough?

In most classrooms, a typical spelling program is keyed to a spelling book. On Monday the new spelling words are introduced through writing on the chalkboard and discussion of patterns and sounds. Then the students fill in a page of spelling for that day. On Tuesday they fill in another page, and the same for Wednesday. Thursday is usually a get-ready-for-test day, with the creative teacher introducing a few games for reinforcement. Friday is the big day to perform. If students get all of the spelling words right (and many of them do), they are considered "Super Spellers"!

A spelling program like the one I've described makes the students feel that spelling is a subject isolated from everything else they do. We teachers often get trapped into the same pattern. When we have a free fifteen minutes in the day, we throw in a page from the spelling book. This setup, continuing week after week, year after year, becomes very boring and repetitious for students.

At the sixth-grade level, there is another problem with the typical spelling book. Spelling skills are introduced through phonics. In the earlier grades, we use phonics to teach students to read. By sixth grade, most of them can read well enough not to need phonic patterns to decode words. Those who can't read by sixth grade are obviously not going to learn how through a strictly phonics approach. Still, we keep phonics alive in the sixth-grade classroom in the teaching of spelling.

In my opinion, what sixth graders need is a change. Certainly *I* need a change. As a teacher, I get the same "blahs" from spelling the students oftentimes do.

Because spelling is so often taught by rote, as a separate subject, students do not really understand *why* they are learning to spell. Spelling has one important function to the students, and the sooner they realize this, the more value spelling holds for them. Simply stated, they must learn to spell in order to write, to communicate through the written words they put on paper.

I believe there are things we can do to make spelling more meaningful to students, and help them make the connection between spelling and writing. Recently, I became excited by some techniques that helped me to revitalize spelling in my classroom. Though the techniques came from specific materials, I believe the ideas behind them can be useful to other teachers.

A few months ago I tried out some sample lessons as a professional favor to the authors. I must confess that I had a personal motive too, because, from what I had heard about what they were doing, I wanted to learn more about this approach. I hoped it would benefit my students.

As we worked with these try-out lessons, I felt that spelling instruction began to have more meaning for my sixth graders, that they actually began to understand what spelling is for. I can sum up the reason for this success in just one word—*challenge.* Rather than dull, boring, routine drill, the students experienced a challenge. They were made to think and were motivated to do something on their own to learn spelling.

For the benefit of others, I'd like to share the elements in the program that accounted for its success. Any creative teacher who is willing to put forth the effort can incorporate ideas like these in his or her existing curriculum. Here are some of the features I found especially effective:

1. The application of spelling words in writing.
The lessons provided challenge through writing assignments that accomplished several goals. First, of course, they encouraged students to use some of the applicable spelling words. Second, they provided high-interest topics, thus motivating students to write and helping them to see a purpose for both writing and spelling. In addition, the lessons taught writing skills appropriate for sixth-grade learning. Finally, they supported students' revising, editing, and proofreading their work.

As a result, my students began to realize that these words they were learning to spell were words they would use in their writing. I was excited to see them apply what they learned about correct spelling to their written work.

2. Words that relate spelling to other subject areas.
The materials provided some spelling words chosen from the various content areas of the sixth-grade curriculum. Thus, I was able to use spelling to enrich such basic subjects as science, math, and social studies. With these content-related words and activities, a teacher need not divide all the subjects up and fit them neatly into the squares of a lesson plan book. When spelling is integrated with other subjects, students begin to realize the purpose and value of learning how to spell.

In addition, activities were included that integrated spelling with such topics as problem solving and career awareness, subjects that are becoming part of our expanding curriculum.

3. Models of works by professional writers.
As a further way to link spelling with writing, the lessons exposed the students to writing models from the work of professional writers. Their ideas stimulated the students to search their own experiences for ideas and then to express them in writing. The materials also focused on various writing techniques that helped the students put forth their ideas more effectively.

4. Activities keyed to individual learning styles.
Besides providing ample opportunities to write, the program supplied lots of games and activities to reinforce spelling. This helped the students to learn through their own individual modality strengths.

Some of the activities linked base words with roots, affixes, and etymology. My students enjoyed the challenge of these word games, while they learned to understand the relationships among various words. The students also gained from the challenging cloze activities and from activities that required them to consult the dictionary and the thesaurus.

Most important of all, the program showed respect for students' capabilities. It motivated them to *want* to learn correct spelling and to apply it.

I continue to explore ideas for a perfect spelling program that can meet all of a sixth grader's school needs. Until I find that perfection, however, I am very supportive of these techniques for challenging students, introducing new vocabulary, and providing writing experiences through which students can find meaningful ways to use new spelling words.

Spelling is one of the oldest of all subjects taught in the classroom. Yet we are still searching for new ways to make it exciting to students. *I* get excited when I discover new ideas for spelling that challenge my students, enrich their other subjects, and motivate them to write.

[Spelling Progress Quarterly, Volume 3, Numbers 2 & 3. Spring/Summer 1987. Page 14 in the printed version.]

6. Teaching the Various Spellings of Our Language Sounds

Elizabeth Hagner

One method of spelling instruction often neglected is that of teaching the possible spellings of sounds in language. Most children and adults know the *sounds* of the word they want to spell. If the spelling of a particular sound is not one of the most usual, however, many students do not know what to do next. What they are missing is a knowledge of the different ways a sound can be spelled. With this knowledge, anyone can use a dictionary to rule out wrong spellings and find the right spelling for the sound.

Today more dictionaries are publishing lists of these sound-to-letter correspondences. In fact, *Thorndike Advanced Junior Dictionary* has incorporated a list of these correspondences since 1957. Now, *Webster's Ninth New Collegiate Dictionary* and *American Heritage Dictionary* publish these sound-spelling correspondences in their guides to the dictionary. The problem with each of these last two listings, however, is that the spellings for each sound are listed alphabetically rather than according to frequency of occurrence. I have found that this can be misleading to students.

In *Phoneme-Grapheme Correspondences As Cues to Spelling Improvement,* Hanna, Hodges, and Hanna give the relative frequency of the spellings for each sound and conclude that about 80 per cent of American English is predictably spelled.

For example, for the sound of long a, more than half of the spellings are a, either as the final vowel of an open syllable *(ba' con);* as an accented syllable by itself *(a' corn);* or as a-consonant-final silent *e (bake).* Next in frequency are *ai* and ay *(rain, bay).* Then come *ei—remember,* when the sound is long *a*, the spelling is *ei (rein)—and ey (they).* There are four *ea* words *(yea, great, steak, break);* some words of foreign derivation with the sound spelled final accented *e (café)* or *-et (Chevrolet);* and several one-of-a-kind spellings.

In addition to knowing the specific letter combinations that spell a sound, the more advanced student can learn the location of that combination in the word. For instance, *ey,* ay, and *oy* usually occur at the end of words *(they, bay, boy); ei, ai,* and *oi* usually occur in the middle of words: *(rein, rain, coin).* Most dictionary listings of sound-to-letter correspondences indicate whether the spelling can be the initial spelling of a word.

I have played detective games with fifth graders—and they with me—in which one person gives the other the sounds of a word or name. The second person is then to locate the name in the telephone book or the word in the dictionary. When ten-year-olds have the list of possible spellings of sounds in front of them, it is amazing what sleuths even they can be—and how diabolical they can be in searching out telephone book names to stump their teacher.

A major benefit of children's using the telephone book, rather than a dictionary, is that *they* must write a proper name in sounds—i.e., diacritical markings—for me to find. The telephone book does not, of course, supply these. The more the students use this skill, the better they understand the sounds that letters and their combinations can make, the construction of a pronunciation key, and the parts of words or names that are difficult to spell.

When I am the one to give the clues and the children are the detectives, they are excited about the challenge of finding the real spelling of words for which they know the sounds and for which they have various possible spellings. The more they practice this skill, the more confident they are that they *can* find the proper spelling, even of difficult words.

In their creative writing, the students use words they are familiar with but that are not spelled for them. They must find the spelling of the sounds they hear in the word. It is almost the opposite of the skill that is presented to them by a list of twenty spelling words. There they see the spelling either before or at the same time as they hear the pronunciation. They go from sound to letters only when their teacher pronounces the words for the Friday test, but that is after they have seen and studied the spelling of the words for several days.

Some of our better spellers are those who have *seen* lots of words—avid readers, usually—and we need to make sure that all children see plenty of words. But when they write, the words are in their heads, not before them on paper. They have to know how to spell what they hear.

How do I teach spelling to ensure that students can go from hearing the sounds of words to spelling them correctly?

I have the students write the chart on paper, on the theory that what goes through their fingers often ends up in their brains.

I begin by having my fifth graders create a chart of sounds and their possible spellings. We do this as a whole-class exercise. For each sound, the students identify the most common spellings, other possible spellings, and rare spellings, with examples for each.

To make the chart, I solicit spellings for a particular sound from the children. When they can't think of any more spellings, I write on the chalkboard words that have spellings of that sound for them to see. As they identify the spellings, I write each on the chalkboard in the proper section of the chart: *most frequent, possible, rare.* Occasionally, for a sound with a large number of spellings, I write out the chart for that sound for them, after they have brainstormed the possible spellings. They keep this chart in their notebooks. I have the students write the chart on paper, on the theory that what goes through their fingers often ends up in their brains.

I start with the short vowels, one at a time. After the short vowels, we do the easy consonants, the ones spelled with just one consonant or its double: *b, g, l* and *p.* Next, we focus on consonants that have an additional spelling or two: *d: -ed* in whipped; *f: ph* in *photo, gh* in *laugh; h: wh*in *who; m: mn* in *column; n*: *gn* in *gnat, kn* in *know; r: rh* in *rhododendron, wr* in *write; t: th* in *Thomas; v: f* in *of.* At this point, I give the students an exhaustive chart of words that contain silent letters for them to keep in their notebooks.

Next we concentrate on long vowels, then on consonants spelled in a number of ways, then on other vowel sounds *(ou, oi,* etc.), then on consonant digraphs *(ch, sh, zh,* etc.), and, last of all, on the schwa. (A list of frequent foreign spellings would be good as a chart, too: *eur* in *chauffeur, entrepreneur; é* in *café, entrée; ez* in *rendezvous, répondez; e* as the first syllable in *entrée,.* etc.)

Each day after they have worked on a new sound, I write on the chalkboard the dictionary respellings of words for the students to find in the dictionary. If they haven't yet studied a particular sound that occurs in a word, I spell that sound for them (especially the schwa) if that sound is crucial to their locating the word.

I ask them first to look for the possible spellings of each sound of a word and list them (in the most likely order) under the sound of the word on the board. (In the process, we rule out those spellings that cannot be initial, medial, or final if that is their location in the word.) For example, this is the way we would list possible spellings for the word *ricochet* (rik' ə shā):

r	i	k	ə	sh	a
r	i	k	a	sh	ay
rh	e	c	e	ch	ey
wr	y	ck	i	s	e
		ch	o		et
			u		

Next I have the students search the dictionary to find the real spelling of a word. I often have them work in pairs. Quickly they will rule out spellings so they won't have to look up all the spellings for each sound. Because there is a wide range of abilities in a classroom, I gave the abler students additional words and more difficult words to find.

When the students first start looking up words in a dictionary, their search is analogous to looking up and down the aisles of a supermarket for various items. They may not find each word immediately, but at least no one moves the words in a dictionary around!

After the students find the word, we circle on the board the correct letters of its spelling:

r	i	k	ə	sh	a
(r)	(i)	k	a	sh	ay
rh	e	(c)	e	(ch)	ey
wr	y	ck	i	s	e
		ch	(o)		(et)
			u		

We work on this spelling method fifteen to twenty minutes a day for a month or two. At the end of that time, the children spell more easily and more correctly, and they are convinced that they can find a word in the dictionary. Each child keeps a dictionary in his or her desk and consults it regularly.

What part does pronunciation play in this spelling method?

To begin with, of course, students need to know what sounds they are hearing in a word. For example, when they hear *cat,* they should realize they are hearing the sounds of /k/, /a/, and It/. When they hear the more difficult word *chauffeur,* they should know they are hearing /sh/ /ō/ f/ / ə / /r/. You want them to reason thus: I am hearing /sh/, but if that sound is not spelled with *sh,* then I can check other spellings, such as *ch*. I hear a long *o*; that can be spelled many different ways—*au, oa, oo, au*, for example. I know that an /f/ sound may be *f* or *ff* or *ph*. Then there's a schwa; and then an *r*: is it spelled with one letter or two? Are there any silent letters?

Some students may picture the word as half-sounds, half-letters that they think spell the word. Because some of those letters may be wrong, they need to learn to picture the word totally in the sounds it makes.

Through this method, the students gain a basic understanding of the pronunciation key of a dictionary. They learn how to write, as well as read, the sounds they hear in dictionary symbols. They do not have to memorize the key, which is printed on nearly every page of every dictionary, but they should become familiar enough with the markings so that they don't have to look up every marking each time they look at the pronunciation of a word. This can save them a lot of time.

The spelling method I have outlined is, of course, only *one* facet of spelling instruction. We must also teach the structure and origins of words (syllables, prefixes, roots, suffixes); and the rules for forming

plurals, for doubling and dropping letters, and so on. Individualizing—i.e., having each student focus on words that are especially troublesome to her or him—is also an important aspect of any spelling program. Nevertheless, we teachers are missing an opportunity, and our children are missing an aid to spelling, if we don't teach them the sound-to-spelling method for locating words in the dictionary.

These sound-to-spelling correspondences do not work perfectly 100 per cent of the time. But we can give our students the advantage of learning the patterns that do exist.

To be good spellers, students need not know how to spell every word they are likely to encounter, but they must know how to look words up in the dictionary. By developing their skills in using the dictionary, we can give students a tool that will serve them well all their lives.