

Curriculum Research

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An Approach to Word Analysis

IF printed words in English followed a uniform phonetic system, children would have much less difficulty with reading and spelling. But children must learn to read and write conventional spellings, and this requires continued assistance throughout the intermediate grades. The "rules and exceptions" approach seems unfruitful in a language full of exceptions. Children who master the complexities of English spellings appear to do so "inductively" through extensive practice in reading and writing. It appears that other children might improve in word abilities if they were given extensive practice in word analysis in which context clues were provided and imagery attached to words immediately after analysis.

The recognition and spelling of many words cannot be determined simply by the application of rules. English sounds may be written in a number of ways, producing a "multi-phonics" language, with various combinations of letters having the same sound and like letter combinations being pronounced different ways. What is the rule for spelling "eece" when it is found in the following words: *peace, geese, grease, fleece, niece, police?* And what happens to the effect of the final silent *e* in *lose, done, love, some?* Why *pear, pair, pare; there, their, and they're; to, too, and two?* Which vowel sounds shall one use in *live, bow,*

lead, wind, read? Which syllable does one accent in *permit, record, present, perfect, and rebel?* How does one remember that there is a *d* in *handsome* but not in *winsome?* *Colonial* makes sense, but how about *colonel?* The letter *g* has two different sounds in *gigantic*, as does the letter *c* in *circuit*. And what happens to the "ch" sound in *chemical, chorus, and character?*

The child who learns to read and spell must find his way through thousands of variations in the spelling of English. To a specific combination of letters, he must attach one or more specific mental images. The boy who writes to his parents that "I one furst pries in wrifullry," is equally accurate in marksmanship and phonics. Phonics has done all it can for him, but he has not attached the correct mental images to *one* and *won*, to *pries* and *prize*, nor do the images of having the top score relate to *first*, or using a rifle to *riflery*. These words correctly spelled may evoke the right images when he reads them, but the tie between word form and mental image is too weak for spelling. It is the establishment of these ties between images and word form that is emphasized in the inductive approach to word analysis.

Conventional approaches to word analysis emphasize structural analysis and rules. Commonly stressed are rules for

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vowel sounds, syllabication, accent, pre-fixes, suffixes, and diacritical marks. Two weaknesses often appear in such exercises: they fail to enrich meanings or attach images to word forms, and they require analytical operation *after* the child has read the word. Only if the child can read the words can he divide *oasis* and *piano* into syllables or indicate accents and vowel sounds in *abdomen* and *bungalow*. Such phonetic analysis does not aid in word pronunciation nor does it enrich meanings. What the child needs is practice in solving new words while keeping their meanings vivid.

In order to discover the values of specific practice in solving new words while keeping meaning high, 30 exercises in word analysis were prepared for fourth grade. Several requirements were followed in the design of these exercises: the words should be in the child's speak-

ing vocabulary but not in his reading vocabulary; context clues should be provided to aid in word pronunciation; the mental images evoked by the words should be restored immediately after analysis; children should aid each other in analysis; the words should be written as well as read; there should be practice in word recognition after analysis; the exercises should be self-administering and self-correcting; motivation must be kept high, with interest constantly maintained; and the exercises should be inexpensive and easy to reproduce.

A series of trials finally led to the production of word classification cards to be used by pupil partners. A card contained 40 words, each of which could be placed under one of three headings. A typical card used these headings: "Has Fur—Has Feathers—Has Leaves." Among the words to be classified were

the following: *canary, pigeon, celery, beaver, maple, daisy, rooster, grapes, parrot, wildcat*. Each pupil ruled three columns on a sheet of paper and placed the headings at the top of each. Then the partners tackled each word, trying the sounds indicated by the letters with the assurance that they would know the word after analysis. Although *canary* might at first be pronounced *cannery*, and *pigeon*, *piggy-on*, further trial resulted in a triumphal recognition, with a rapid copying of the word under "Has Feathers."

After the completion of the lesson, children used the key on the reverse side of the card to correct their work. The words were pronounced and spelled orally to strengthen discrimination of word elements. Each child kept a record of the lessons completed and the partner with whom he worked. Since there was no developmental sequence to the cards, a single set served the entire class. The partners could select any card they had not used previously.

As with any teaching materials, effective use of the cards depends upon teacher interest and judgment in initiating and maintaining the program. Partners need to be congenial and of approximately equal ability; absentees require new pairings for the day; good handwriting must be maintained, as well as care in correcting the exercises; success must be praised and effort must be encouraged.

An experimental evaluation consisted of trying the exercises in ten fourth grade classrooms for a period of ten weeks, and comparing the results with those of ten control classrooms. The experimental and control groups were equated for intelligence and ability in word analysis, reading, and spelling. Teachers were paired for approximate

equality in the teaching of reading and spelling as determined by accomplishment quotients of pupils under their direction the previous year.

Time for the lessons was found by using them in place of the regular spelling lesson three days a week. The regular spelling words were taught only two days a week. In the control group, spelling took five days a week; reading instruction in both groups was maintained as usual.

Ten measures of word analysis, reading, and spelling were used before and after the experiment. The experimental group made greater gains than did the control group on all ten measures; statistically significant gains were found in all five word analysis tests, and three of the four reading tests. Marked improvement in the ability to solve new words, measured by the Boston University Word Recognition Test, was indicated by initial scores of 20 for both groups as compared to final scores of 39 for the experimental and 25 for the control group. Similar gains were shown on the McKee Inventory of Phonetic Skill, as well as in visual perception of word patterns and the recognition of homophones. On the Gates Reading Survey Tests, the experimental group gained one year in reading as compared to six months for the control group. Significant gains were found in both vocabulary and speed of reading. In spelling, the experimental group gained six months on the Metropolitan Test, as compared to four months for the control group.

Intensive practice in solving new words through use of context clues appears to produce marked gains in word power. Although no rules were taught during the experiment, the gains in phonetic ability were very large. Particularly interesting was the gain in rec-

ognition of homophones which measures the ability to recognize different spellings of the same sound. Apparently successful practice in word analysis gives the child power in the "multi-phonics" of written English.

The success of the fourth grade word classification cards led to the production of similar cards for grades three and five. Both are being evaluated experimentally. The fifth grade exercises are being compared with similar exercises in which the same words are studied through structural phonics approaches which are common to basal reading systems. This will permit a more detailed

comparison of growth through inductive phonics as compared to deductive or "structural" phonics. Techniques of word usage in spelling which stress mental imagery and enriched meanings are also being tried, in the expectation that both spelling and transfer of spelling to written composition will be improved. The improvement of children's abilities with words is still a rich field for educational pioneering.

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Testing

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mass media innovations. There are many sacred cows pasturing in our own curriculum procedure and content preserves, too, whose carcasses are in need of some thorough test of viability. Many of our "best" procedures are based upon fragmentary philosophy and restricted research evidence. A deep critical self-evaluation in teaching is long overdue; the longer this examination is delayed, the more difficult will become needed modifications. Should we delay too long in this critical inspection, then the inspection and decisions of viability may well be made outside our profession, and to our detriment and that of children.

The child in the learning process, then, is and should be the focal point of all concern. Here, too, testing in the new school can play a vital and positive role. More complex information, electronic calculator procedures, and automated systems of instruction and evaluation need not submerge the learner's importance and reduce him to a series of rectangular holes in a calculator card. Properly utilized, all these procedures can be

brought to bear for the enormously enriched benefit of the individual student—for his own enlightenment and self-appraisal, for guidance and counseling purposes in the instructional experience by his teacher, and for careful scholarly analysis and adaptation of the system-wide curriculum by school officials.

Many massive forces are at work in the world today, and a large number of these have extensive implications for the teaching-learning experience. Will the tidal wave of technology in testing and new communication-teaching media inundate the present teaching and supervisory personnel, or will the wave carry the teaching profession to new crests? The answer depends upon the stature and posture of teachers and supervisors today, and upon their willingness to learn and acquire new and expanded techniques.

Children have very practical and functional definitions. Such an approach might serve us well in our present context: To teach is to learn, to learn is to know, to know is to control. We say we have been teaching—let's hope we have been learning—in time.

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