In our concern to improve the quality of reading, we have neglected vocabulary development; in our zeal to teach children to pronounce words, we have neglected teaching them word meanings. Vocabulary can be developed by using all the communication processes: reading, writing, speaking, listening, visualizing and observing; and vocabulary deserves emphasis throughout elementary and secondary grades. Though language inheritance, background, and competencies are outgrowths of out-of-school factors, attempts must be made to compensate for deficiencies of these sorts when encountered. Because children learn words individually and in relation to personal conceptual systems, vocabulary instruction should be viewed as concept building. Thus the generative potential of words, the commonality of roots, prefixes, and suffixes, and the utility of given words in numerous contexts should be emphasized. Finally, a systematic vocabulary development program involves student mastery of the technical terms and concepts needed for instruction in all subjects. (Author/RD)
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VOCABULARY DEVELOPMENT: A NEGLECTED PHASE OF READING INSTRUCTION

Two men had their boat moored at a dock on the shore of the Atlantic. During the night the moorings got loose and they floated out to sea. One of them woke in the morning and could see nothing but a vast expanse of sea. "Look, Joe," he called to his companion. "We ain't here no more."

We, too, ain't here no more and we aren't going to be.

Charles F. Kettering once said: "We should all be concerned about the future because we will have to spend the rest of our lives there."

Science, engineering and rising expectations all over the world have made yesterday obsolete. Today is an interim for a complicated tomorrow. The one certain thing we can predict about the future is that it is unpredictable.
We are privileged to live in one of the confusing, dismaying, complicated periods of history. I consulted a reference book to see if I could find some parallels to our situation in Greek mythology. The labors required of an administrator and teacher today are Herculean, you must perform more than the mythical twelve extraordinary labors. They are also Ixionic, seemingly bound at times to an endlessly revolving wheel: Sisyphean, you roll the stone to the top of the hill and in the morning it's back there again. And on Saturdays you go to another meeting, a little tired after listening to unconscientious objectors all week.

But you can be confident that there never was a time when you could exert greater leverage—if you knew where to put your lever in. But you can't get leverage unless you know what is ahead and then plan for it. Let me emphasize these relevant points.

First, we cannot master all the important knowledge—it is too vast, too changing, too unpredictable. What we must do is to get our ignorance better organized, decide what we wish to be informed about and what we must inevitably remain ignorant about. Sir Richard Livingstone has said that a great teacher "is known by the number of valuable subjects he declines to teach." We must establish priorities in vocabulary development as well as in other fields. We should teach that knowledge which generates knowledge.
Second, since no school or college can cover the ground, we must learn how to uncover it at pivotal points, deal in depth with greatly limited numbers of concepts and principles. If we can't forecast the products of learning, we can be fairly sure of the processes.

Third, we must educate for flexibility, help the young and the old learn how to learn, develop a love of learning, and a never-ending curiosity about the world we live in. You are educated when you can educate yourself. Our goal, then, is the independent learner, one who is critical, mature has learned how to go it alone, how to live confidently in an unpredictable world. This takes time. You can have instant tea and coffee but there is no instant maturing. But the better your vocabulary, the greater your flexibility, the greater your maturity.

Why is communication so important today? There are sharp differences here and all over the world in our ability to live decently and humanely. We have grinding poverty and disgraceful opulence. By the way, The Wall Street Journal recently reported that the sale of Cadillacs was up 322 per cent. This is happening when many professional people are out of work, finding that they are not wanted in this society.

There is a feeling of malaise in our society, an ominous feeling of grave danger ahead. Killing continues in Vietnam. Jobs for young teachers are scarce and the future is cloudy. Public opinion polls over the past ten years show that schools, businesses, and other institutions are being held in lower esteem. W. B. Yeats said it well over 50 years ago:

Things fall apart; the centre cannot hold;
Mere anarchy is loosed upon the world,
The blood-dimmed tide is loosed, and everywhere
The ceremony of innocence is drowned;
The best lack all conviction, while the worst
Are full of passionate intensity.
The struggle is on again for needed school funds. Many people want economy no matter how much it costs. Our task, therefore, is to sharply increase the quality of our product. How can this be done? It can be done by giving greater attention to the concept of communication -- reading and writing, listening and speaking, observing and visualizing. We can group these according to the expressive abilities: writing, speaking, and visualizing---and the interpreting abilities: reading, listening, and observing. Each reinforces the other...they are all key phases of language development. Reading is language development. Vocabulary development often comes through reading.

We will not successfully meet the needs of a society unless its members learn to read at the highest levels of which they are capable. When you develop language, you develop reading---indeed all the skills of communication. Better listening, too, means better reading. Visualization through drama provides rich emotive experience in vocabulary.

In our national concern to improve the quality of reading we have neglected vocabulary development. In our zeal to teach children to pronounce words, we have neglected teaching them the meaning of the words pronounced. Words are a critical aspect of all concept development.

Vocabulary can be developed by using all these communication processes of reading and writing, speaking and listening, and visualizing and observing. Further, since words are the names we give to experiences, rich experience is a necessity in vocabulary and language development.
Vocabulary development is important because it is closely related to mental development. A poor vocabulary means poor reading ability, and a rich vocabulary correlates highly with reading ability. The higher mental processes require a higher level of vocabulary.

During the past ten years we have worked intensively to improve the quality and quantity of reading. Much of that work has been remedial in nature and confined to the lower grades. We have done little to make good readers excellent and excellent readers superb. We have spent millions of dollars to discover that the specific method used in the teaching of beginning reading is not the central problem. Given a method which the teacher herself enjoys using and you will probably get as good results as other teachers using the method they use and like. We select teaching methods to fit our own styles, sometimes highly structured, sometimes highly flexible.

The emphasis in much of the study of reading has been on decoding. I think that it is sometimes overemphasized. We need to follow Jeanne Chall's advice: (Learning To Read: The Great Debate, p. 307)

Nor can I emphasize too strongly that I recommend a code emphasis only as a **beginning** reading method--a method to **start** the child on--and that I do not recommend ignoring reading-for-meaning practice. Once the pupil has learned to recognize in print the words he knows (because they are part of his speaking and listening vocabulary), any additional work on decoding is a sheer waste of time. It saddens me to report that some authors and publishers of reading materials are already misinterpreting the evidence. They are developing decoding exercises for upper elementary and high school pupils, erroneously assuming that if this approach is good at the beginning, it is also good later on...
Who are the best readers in school? The evidence indicates clearly that they are the persons with the best vocabulary. Look at any of the scores on reading tests which provide data on reading skills as well as scores on vocabulary and you will see that they are nearly always closely correlated. I know that correlation does not necessarily mean causation but I ask a simple question: If vocabulary is so critically important in reading, why don't we emphasize it throughout all the grades of the elementary and high school? You may reply quickly that the students have a good vocabulary because they read well. But what are the causative factors?

Our language background, our language inheritance, our competencies arise more from influences outside the school than inside it. Getting students to read more widely is often negated by the fact that neither they nor their parents nor members of the community nor their teachers may actually be reading with breadth and depth. If we want children to learn to read, then their parents and teachers must be reading. There must be models. The studies show clearly that you can predict excellence in reading from the kind of background the children had. If children weren't read to, if reading wasn't highly honored in the home, then the quality of reading suffered. Hence the importance of a real headstart. Note this comment from The New Republic of September 11, 1971:

...Studies of Headstart children have indicated that at least 10 percent to 25 percent are already crippled in their emotional and intellectual development by the time they enter the program at age four...

...The Coleman Report in 1965 surveying nearly a million pupils in 6000 schools found that family background and social environment mostly decided how well a child did in school...
If you accept this conclusion, then we must improve the family background of our students as well as their general social environment. It does not absolve us, however, from doing the best we can now and this is of critical importance.

Let's suppose we really wanted to help the lower one-third or one-fourth of our school population really have access to excellence. What could we then do? It would probably be something drastic and expensive. The July 1971 issue of American Education reports:

...impressive advances in the IQ scores of ghetto children in a special Milwaukee program. The Infant Education Center Project, a group of educators led by F. Rick Heber of the University of Wisconsin, concentrated on the new-born children of 40 mothers whose IQs were less than 70. Each child had his own tutor—each child was well fed, talked to, listened to, stimulated. An expensive education, no doubt, but the children achieved normal and above-normal IQs, ranging up to 135. The evidence suggests a new wrinkle in the argument over environment and heredity. It is not the slum environment but the retarded parent (usually the mother) living in that environment which is "the most reliable single indicator" of a child's possible mental retardation...

Why is it that children can master a vocabulary of some 3,000 words plus the grammar of the English language before they come to school? Typically they had no formal teachers, these are unschooled experiences. There were no marks, no grades, no reprimands, no threats, no punishment. But there were rewards of approval, high praise, the chance of associating with other children who could talk to you. There was only success, no expectation of failure. Jerome Kagan puts it this way: (Analyses of Concept Learning)
Children quickly develop different expectations of success or failure in intellectual tasks. Unfortunately, the most frequent and prepotent reaction to an expectancy of failure is decreased involvement in the task and subsequent withdrawal. Educators have been guilty of minimizing the critical role which a child's expectancy of failure plays in shaping his behavior in a school situation. The child's motives are contingent on expectation of success or failure, and motives are sloughed or adopted with zeal depending on the degree to which the child believes he can attain the goals that gratify the motive. Growth of specific motives and persistence in task mastery hang delicately on the balance between hope and fear.

Kagan also emphasizes the factors needed for intellectual development:

A child's intellectual performance in or out of school [may be viewed] as the result of the interaction of five factors -- elemental skills, strategies of processing information, motives, standards, and sources of anxiety. The elemental skills involve a primary set of labeling symbols and rules. The child must have a minimal vocabulary level in order to understand speech, comprehend the written word, and report orally the product of his thinking. He must also have learned certain rules that represent combinations of symbols....Rules and vocabulary are the basic equipment for the production of thought.

How is this vocabulary developed?
In the early grades in the Inner City in Columbus children take walks near the school. They see and name the different kinds of buildings -- apartment, house, duplex, firehouse, garage, etc. The meaning has been made clear by actually seeing it or indeed by living in it.

Animals are studied and here are some of the sounds they learn dogs make: bark, growl, howl, yap, yelp, yip, whimper, woof. In appearance dogs have floppy ears, long hair, long tail, pointed ears, short hair, short tail. They are large, shaggy, long legged, sleek, short legged, slender, small, stocky, tall, tiny.

Children not only learn individual words but develop a conceptual filing system with a name or label for many different kinds of files. For example, they have a mental file for the word or concept color, and they know that red, white and blue are colors. They have another label called fruit and they know that pears, bananas, etc. are fruit. They know apple but may not know grapefruit, pancake but not waffle.

May I remind you, too, that in vocabulary development we are thinking about little words as well as big words. Note the variety of meanings of had in the following material:

Smith, where Jones had had "had," had had "had had"; "had had" had had the examiner's approval.

When a doctor gets sick and another doctor doctors him, does the doctor doing the doctoring have to doctor the doctor the way the doctor being doctored wants to be doctored, or does the doctor doctoring the doctor doctor as he wants to doctor?
The Language Environment

To improve vocabulary we must set up a stimulating language environment. Note the following statement. Does it sound like B. F. Skinner?

"...the only way in which adults consciously control the kind of education which the immature get is by controlling the environment in which they act, and hence think and feel. We never educate directly, but indirectly by means of the environment. Whether we permit chance environments to do the work, or whether we design environments for the purpose makes a great difference. Any environment is a chance environment so far as its educative influence is concerned unless it has been deliberately regulated with reference to its educative effect.... But schools remain, of course, the typical instance of environments framed with express reference to influencing the mental and moral dispositions of their members."

This is John Dewey speaking. (Democracy and Education, p. 22)

But how do you get a designed environment instead of a chance environment?
Here is what inventor Buckminster Fuller said on this same topic:

...It is possible to design environments within which the child will be neither frustrated nor hurt, yet free to develop spontaneously and fully without trespassing on others. I have learned to undertake reform of the environment and not to try to reform Man. If we design the environment properly, it will permit child and man to develop safely and to behave logically. (Saturday Review, Nov. 12, 1966, p. 70)

There is nothing antidemocratic about designing an environment, we do it all the time. Winston Churchill noted, for example: "We shape our dwellings, and afterwards our dwellings shape us."

A designed environment can be harmful if there are no open choices. Then you become a prisoner of the system. But you can design flexible systems in teaching vocabulary, or, more broadly, in developing concepts.

I have said that we need a design and system in teaching concepts. We must have this in each subject matter field—at the more mature levels. But we have not set up a system for vocabulary instruction which makes use of two things: the words and word parts already known and the ones that are on a future agenda.
Designing a Systematic Program of Vocabulary Development

I propose that we set up a systematic, carefully designed program for vocabulary instruction—seen always as concept building in the language development program of the school and closely connected with the teaching of reading and writing, speaking and listening, visualizing and observing.

Please cleanse your mind of some of the atrocities committed in the name of vocabulary study. Dr. Margaret Early found many years ago that non-college bound high school seniors rated vocabulary study as very low in interest. However, the stupid method of having students look up 10 unrelated words in the dictionary, copy the definition, and write a sentence using that word is more common than you may think.

Yet before children come to school, words are one of the most interesting things they learn. The average six-year-old knows about 3,000 words. Actually 75% of first-grade children in the Inner City of Columbus know more than 1500 words.

We need a program of vocabulary development because teachers themselves need a rich vocabulary. Some do not know the key roots, prefixes and suffixes that should have been taught to them in grade school and college. For example, many do not know that tele in television, telegram, telepathy, telemeter, and a score of other words means distant.
Today we are increasingly using the term *system* in our thinking about the curriculum of school and college. A system is a set of interrelated, interacting parts. In our vocabulary work we have also used *structure* as a "web of relationships" and we find that students are greatly interested in the "webbing" process. To web is to constantly be aware of the need for interrelating the new ideas with the old, to creatively interact with old and new concepts.

Many word parts are interchangeable, generalizable. For example, if you take the prefixes from one to ten: mono, uni; bi, di, duo - dua; tri; qua(d) (t), tetra - tetr; quinque-quinqu-quint, pentapent; sex, hexa - hex; sept, hepta - hept; oct (a) - (o); novem - non; dec-deca -- you get about 500 words. By knowing prefixes, roots, and suffixes, we are able to get the inner context clues as well as the outer ones. Hence we can say that the man who registered at the hotel would not take room No. 13 because he was suffering from triskaidekaphobia.

Note these webs of relationship: we can move from helicopter, to pterodactyl, to lepidoptera; from cornucopia (horn of plenty) to bicorn (a source of milk) to tricorn (a three-cornered hat) to cornea.
Manifold Meanings—or What's a Metaphor?

The textile business has probably given origin to more words and figures of speech than any other single enterprise. Here we have a web of many related words and combining parts.

We speak of the "text" of a sermon. We read this or that and declare it simple (single-fold) or complex (manifold). We see things in context and try to find pretexts for not doing certain things. We find other things complete (with all their fold) or incomplete. Some are replete with meaning. We make duplicates (doubles or two-folds) and triplicates and wait for replies (folding back), we comply with some rules and apply others. We sometimes imply (fold in) what others infer. We sometimes use ply as its original was used as in 2-ply, 3-ply. On the other hand, sometimes we merely ply someone with questions. Sometimes we are fruitful and multiply.

Closer home, we speak of the pleats (folds) in a skirt, or admire the plicata (folds) of an iris.

We follow a thread of inquiry, call someone's tale a "tissue of lies" (or a "fabrication"). We talk of the fabric of society and this person's moral "fiber." We say of some one that his "heart is all wool and a yard wide." We knit our brows and speak of the "warp and woof" of, for instance, domestic life. We like to hear someone spin yarns, and sometimes we get caught with the goods.

We say that a good story is "made out of whole cloth." Every now and then we hand someone a line (linen thread), write books called the Loom of Language and shuttle from place to place.

We call an old maid a spinner and look the word up in Webster (weaver) when we are not weaving in and out of traffic.
I see vocabulary development as dealing with words on a continuum, roughly broken into four stages. In the first stage, you have not seen or heard the word. It is just a series of letters. I am talking about words such as these: interstice, jejune, soffit, reticule, Sisyphean, moue (a pout or grimace), Draconian, lection, scut, hemidemisemiquaver, adit, adnoun, oxymoron, alb, valerian, fichu, periwinkle. Some of you will have trouble with word parts such as proto, tetra, gon, hedron. Or with the expression [Latin phrase]. (He has approved our undertakings.) This is interesting because nearly everyone here has this word on a piece of paper in his pocketbook or purse.

The second level of word understanding comes when the word you see or hear is vaguely familiar, you almost know it. It's what we call a twilight zone word. It is from this group of words that most of your known words come. Let me give you some samples which may be in your twilight zone: kith and kin, ingenuous, synergy, heuristic, contrapuntal. You may know vaguely that Sodom and Gomorrah are in the Bible as are Dan and Beersheba, but you may mistakenly conclude that they are famous lovers.

In this twilight zone are some of the words which you may think you know but don't. The hoi polloi are not the rich, but the common people. Does canst mean can? Yes, it does. A graduate student told me that he had found a dearth of ideas on a particular topic, thinking
that dearth meant plethora. His dearth was real. I always thought that Shakespeare had Hamlet say, "And to the manor born." But it's manner, not manor.

Many boners are words or phrases in our twilight zone. His company was no longer soluble. Education should wet your appetite for learning. (Will you drink to that?) Many people say, ek cetera.

All of us can remember mistaken ideas we had about words in our twilight zone. I thought that people were either masculine or femininé. My son used to say, "Boys and grails."

There is a third level in which words are known in one form but not in others. They know remedy but not remedial, escape but not escapade. With a little help they should make these inflections: ambush to ambuscade; habit to habitual; plural to plurality; type to typical; vein to venous; cone to conical; nice to nicety; sober to sobriety; benefit to beneficiary; aspire to aspirant. Teachers can help children see the old in the new and the new in the old.

Adults often know the expression, a short shrift. But what is a shrift? Can you have a long shrift? After you have had a short shrift, will you be shriven? You know about the Pied Piper, but why was he pied? What does prodigal mean in the Prodigal Son? We criticize people for their shortcomings but do not adequately praise them for their longcomings.

Here we are in a situation where it would be possible to extend the meaning of the word and increase the richness and depth
of the word as well. This is true, for example, of the names of cities which have an origin in a foreign language: Albany (white place - did you see the \textit{alb} in it?) Palo Alto - high wood. Did you see the \textit{sanctum} in Sacramento, the \textit{bois} in Boise? I have a summer place near Augusta, Maine but had not seen that city as august, majestic. Nor Santa Fe as holy faith.

Fourth and finally, we come to the point where the word in all its rich connotation or fenced-in denotation is well known to us and we can apply it aptly in many situations. But we still see it as a part of a web of relationships and apply it to new situations.

To develop a systematic program of vocabulary development we need to allocate certain performance objectives relating to roots, prefixes and suffixes to the various grades and provide test materials for these words. When should the student know the prefixes from one to ten? \textit{Bi} and \textit{tri} would certainly be in the very early grades, \textit{tetra} \textit{pseudo}, \textit{quasi}, \textit{hetero}, \textit{eu}, \textit{dys} much later.

A systematic program of vocabulary development would also involve mastering the technical terms or concepts needed in instruction. We should identify the key terms used in all subjects---mathematics, English, literature, chemistry, physics, botany, home economics, etc.---and make self-correcting tests available. Students could take these tests periodically and sometimes use self-instructional materials to remedy minor weaknesses. Instruction would be aimed at mastery and use of these critical terms.
Here, for example, are some concepts used in linguistics:

blend, cognate, coinage, etymology, hybrid, idiom, jargon, loan word, neologism [92 neo words in World Book], semantics, vernacular. Under figures of speech we would have a glossary which includes simile, metaphor, personification, irony, hyperbole, synecdoche (part for whole), metonymy, litotes (makes statement by denying its opposite). A million dollars is no small sum. J. Paul Getty says at the end of a day's work, "Another day, another million dollars." He has also pointed out that a million dollars doesn't really go as far as it used to.

One of the most interesting figures of speech is the oxymoron [oxy-sharp; moron-foolishness]. Here are some examples:

sweet cesspool (George Sanders), broadly ignorant; gilt-edged insecurity; successful failure; magnificently dumb; sophisticated irresponsibility; priceless unessentials; dynamic bore; trained incapacity (Veblen); prudent failure (how to lose your money prudently); laboricus indolence.
The problem of readability

Vocabulary growth is stunted because students may not have at hand thoughtful subject matter material which is at or a little below their reading level. The text is too compact, too summarized, too condensed. Indeed, sometimes textbook writing is a summary of a summary. There is, of course, a place for condensing, to have one word stand for a lot. But the individual must be his own summarizer, his own conceptualizer, he must carry on the mental operations leading from the concrete experience to the abstract concept.

Sometimes abstract, unreadable writing comes from a writer who is trying to impress rather than to express. The writing is almost dull enough to be scholarly. Here is what historian Samuel Eliot Morison says about professorial writing:

There has been a sort of chain reaction of dulness. Professors who have risen to positions of eminence by writing dull, solid, valuable monographs that nobody reads outside the profession, teach graduate students to write dull, solid, valuable monographs like theirs; the road to academic security is that of writing dull, solid, valuable monographs...

("History as a Literary Art," Series II, No. 1, The Old South Association, Boston, Mass., pp. 4-5)

In the preparation of textbooks and other expository materials much remains to be done to put the materials on the reading level of the learners.
What Are Words For?

What are words for? What can they do to us and for us?

Words are for falling in love with: we need their sounds, their meanings, their power, their poetry. Words are for communicating—sharing ideas and feelings in a mood of mutuality. Words name our experiences.

Words are for codifying, labeling, classifying, providing levels of complexity, furnishing hierarchies and structures of thinking. They order our disordered experiences. Words are for relating, integrating, differentiating, helping us see the different in the apparently similar, the similar in the different.

Words are for reading and writing, speaking and listening, visualizing and observing; for recording the sublimity and the folly of men. They are for friendship, gratitude, and love.

Words are for fun—riddles, puns, jokes, the cutline on a New Yorker cartoon, the wisecrack, the apt slang expression.

Words are for creating words—top banana, chortle, pornograffiti, exemplify, philophobe, phobophile.

Words are for borrowing from other languages—Latin, Greek, Anglo Saxon, French, Scandinavian—tour de force, smorgasbord, ombudsman, deus ex machina.
Words are for quoting and remembering. When Polonius asked Hamlet, "What do you read, my lord?" he replied: "Words, words, words." Shakespeare also used such expressions as "mere words," "words that are no deeds," which "pay no debts." He tells us about "harsh words," "the power of the word of Caesar." He suggests that we "give sorrow words" and thus assuage "the grief that does not speak."