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IMPROVING WORD PERCEPTION.

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PERCEPTION IS DEFINED AS THE MEANINGFUL RESPONSE TO THE VISUAL OR ORAL SIGNAL WHICH IS UNIVERSALLY REFERRED TO AS WORDS. PERCEPTION INCLUDES THE AROUSAL OF MEANING AND IS A CONSCIOUSNESS OR AN AWARENESS OF THE EXPERIENCES ELICITED BY THESE VISUAL OR ORAL SIGNALS. IMPROVING WORD PERCEPTION INVOLVES AT LEAST THE FOLLOWING THREE PROCESSES WHICH ARE EXPLORED HERE--IMPROVING VISUAL SKILLS, IMPROVING AUDITORY SKILLS, AND BUILDING A RICH BACKGROUND OF EXPERIENCE. FIVE VISUAL SKILLS AND SEVEN AUDITORY SKILLS--ALL AMENABLE TO TRAINING--ARE CONSIDERED. DIFFERENCES BETWEEN PERCEPTS AND CONCEPTS ARE DELINEATED. IMPROVING WORD PERCEPTION INVOLVES APPLYING HOLLINGWORTH'S THEORY OF CUE-REDUCTION TO VISUAL AND AUDITORY CHARACTERISTICS OF WORDS AND ENABLES THE CHILD TO ASSOCIATE APPROPRIATE SEGMENTS OF HIS INCREASING EXPERIENTIAL BACKGROUND WITH THESE SYMBOLS. THIS PAPER WAS PRESENTED AT THE NATIONAL COUNCIL OF TEACHERS OF ENGLISH MEETING (HOUSTON, NOVEMBER 1966). (RH)

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IMPROVING WORD PERCEPTION

by

Donald L. Cleland

"When I use a word," Humpty Dumpty said, "it means just what I choose it to mean--neither more nor less."

Lewis Carroll's -
Alice's Adventures in Wonderland

This quotation, which has been cited many times, is taken from a book that was written by Charles Dodgson, a mathematician at Oxford University, England, for Alice Liddell, the daughter of the dean of Christ's Church. Mathematics is an exact science and we can easily understand why Dodgson, under the pen name, Lewis Carroll, said - "When I use a word--it means just what I choose it to mean--neither more nor less."

On several occasions I have defined reading as the establishment of rapport with an author. Thus a mutual bond of confidence exists between the reader and the author. The reader has, in fact, confidence that the author has couched his message in graphic symbols (words) that are understandable to him. By the same token, the author at the time of the writing, was confident that he conveyed his thoughts in language patterns that would be meaningful to the intended reader. Thus, if I wish to communicate with you (this audience) via the written or spoken word, I must encode percepts, concepts, images, memories, sensations--into a signal system that will be meaningful. You, therefore, the reader or listener, must decode these signals into a meaningful pattern. The greater the degree of congruency between these two signal systems, the more effective will be the communication. Rapport, thus, will have been

established between author and reader--speaker and listener. Such a relationship is premised upon a commonality of experience. Perfect comprehension, or communication, I fear is unattainable. The reasons are obvious--the author and reader or the speaker and listener will differ in emotional maturity, experiential background, efficiency in thinking, skill in perceiving, language facility, etc. And, incidentally, a lack of a common experiential background between author and reader or speaker and listener is a barrier to effective communication. It is not difficult to understand the problems encountered when a learned person from our society attempts to explain our concept of democracy to a citizen from an autocratic State.

While I was pondering the organization and content of this paper, and I assure you I have not taken the assignment lightly, I turned to Bartlett's Book of Familiar Quotations[1] to note how many references I could find. It is quite amazing to note that I found 340 quotations using the word word. From the recordings of early history to the present space age, men have been aware of the power of words. I could not resist the temptation to look for their contextual setting.

Joseph Conrad in Lord Jim expressed this thought so eloquently when he said:

> "There is a weird power in a spoken word....And a word carries far---very far---deals destruction through time as the bullets go flying through space."

Or in like vein, quoting from Richelieu by George Payne Rainsford James:

> "A single word has sometimes lost or won an empire--
> even less than a single word, if we may believe the history
> of Darius's horse, who proclaimed his master emperor
> without speaking."

Wilfred Funk and Norman Lewis evidently had a deep reverence for words:

> "From now on we want you to look at words intently, to be inordinately curious about them.... They are your tools of understanding and self-expression. Collect them. Keep them in condition. Learn how to handle them. Develop a fastidious, but not a fussy, choice. Work towards good taste in their use. Train your ears for their harmonies."[2]

And who, among those who are responsible for the successful blast-off of our space vehicles, has not an abiding reverence for the word go in the now well-known expression "all systems are go."

Perhaps I am gilding the lily or carrying coals to New Castle when I talk about the importance of selecting the precise word when wishing to convey nuances of meaning. You are as sensitive as I; nevertheless, reaffirmation has never dulled a belief or conviction.

Before I continue my explorations, it seems apropos at this moment to define two terms, namely, perception and word.

Perception in its most limited sense refers to an awareness of external objects, a situation, an event, a relationship, etc., as a result of sensory stimulation. Applying this concept to words, we could safely say that

perception is a mental awareness of the graphic symbols we call words. As mentioned, such is a very limited and narrow definition of perception.

What is a word? They are so much with us that their very profusion may lead us to some invalid assumptions concerning their nature and use. One of these assumptions might be that the word is identical with the object or thing. Anyone who fails to perceive the symbolic relationship between words and reality is really saying that a description of a man is the man. Another way of stating this is to say that reality is reality and remains reality regardless of the graphic symbols we use to describe it.

Words have no meaning. There is nothing inherent in a word that suggests its meaning. There is no catness to the word cat; there is no corny-ness to the word corn; and a rose would be just as beautiful and aromatic if called by any other name.

It is important for us to remember that words are words and that things are things, events are events, relationships are relationships; and that words are related to things, events, situations, relationships as each of us relates them. Words, then, are merely the visual or oral signals used to symbolize or represent a segment, and a very small one at best of reality which surrounds us. In other words, are not we all the victim of the Tyranny of Words; the word is just a visual or oral signal which represents a selected portion of our experiential background. Thus the words we use are as individual as each of us are individuals.

With the background which I have given you, permit me to give you an operational definition of word perception. I view the word perception as

"the meaningful response to the visual or oral signal which is universally referred to as words--it includes the arousal of meaning. It is a consciousness or an awareness of the experiences elicited by these visual or oral signals."

Improving word perception, therefore, involves at least three processes or acts:

1. Improving visual skills so that the child can readily attend to and efficiently discern the visual signals.
2. Improving auditory skills so the child can attend to and efficiently discern the auditory signals.
3. Build a rich background of experiences (perceptual-conceptual development) so that appropriate percepts and concepts may be evoked and associated with these visual or auditory signals.

Time will not permit me to explore in depth each of the three processes or acts listed above. I shall take each in turn.

During World War II, a study was made of the practices which were employed to select radar operators. A sailor aboard a shore establishment was asked to describe his vocation prior to the war. He replied that he had been a rodeo performer in the mid-west. Further questioning regarding the curious discrepancy between his naval assignment and civilian occupation, disclosed that the only explanation the radar operator could offer was that, possibly, some classification officer in perusing his record misread rodeo

and radio, and therefore pegged him as a likely candidate for radar operator training. Whether this story is based on fact or is the product of someones imagination, it poses this question: "What visual clues are involved in word perception?" Or one may ask: Does the total configuration of the word give rise to the response? Or, do certain elements of the word serve as the stimuli which evokes the response? A search of the literature would reveal proponents of each view. Some would claim that the real perceptual unit is the total word. Another group, such as Diack,[3] argue that the whole word does not necessarily constitute the real perceptual unit and that children do not see word wholes.

The visual cues which the reader uses as he attaches a segment of his background experience to words have been investigated by a tachistoscope. This optical instrument, according to them, simulates a fixation span. According to some investigators, individual letters constitute the most important cues in word perception. They argue, and submit research evidence to substantiate their contention, that the most legible letters stand out and therefore capture the readers attention and control his response to the word. Based on this point of view, letters which have been assigned the highest cue value are:

1. The first and last letter
2. The ascenders and descenders such as b, d, p, q, l, k, etc.
3. Special letter combinations which appear near the center of fixation. These are the letters we find in juxtaposition very frequently such as tt, ll, ai, etc.

Others claim that a whole word constitutes the main perceptual unit, and further argue that the initial unit of instruction should be the smallest meaningful unit, the word. Since the average span of recognition, as measured by an ophthalmograph or an eye camera ranges from .45 of a word for first graders to 1.11 words for college students,[4] it would seem illogical to assume that the perceptual unit is the word; rather it would be certain elements of the word.

It is my considered opinion that the real perceptual unit is a portion of a word, and furthermore, that certain portions of whole words have higher cue values than others.

After a child's initial experience with a new word, it takes fewer and fewer clues to recognize the word. This is a manifestation of Hollingworth's concept of redintegration or cue-reduction. Redintegration refers to a situation in which a portion of a complex stimulus gives rise to the total response which was made only to the total complex stimulus. This concept can be carried one step further. Finally, a condition is reached in which only the barest minimal clues are needed to evoke that segment of the child's background which is meaningful to the contextual setting of the word. Hence, this is the rationale for repeating each new word in different contextual settings. This, in the academic sense, is developing word recognition skills--developing skill in recognizing words with the minimal number of clues or cues.

To illustrate this phenomena to my graduate classes, I have written the word:

S t r e p h o s y m b o l i a

on the chalkboard while their eyes were diverted or closed. I then asked them to view the word and through introspection ascertain the mental processes employed as they used word-attack skills. At a subsequent class meeting, I write the same word on the chalkboard, and therefore, let them discover that fewer clues were needed to recognize the word. I realize, however, that in a normal reading situation, the contextual setting coupled with the minimal visual and auditory clues are the desiderata for the rapid and efficient recognition of the word. As a contrast, I have written the following nonsensical lexical unit on the chalkboard while the class either closed or diverted their eyes.

S u p e r c a l i f r a g i l i s t i c e x p i a l i d o c i o u s

Needless to say, even though they may never have seen it in print, they recognize it rather quickly by utilizing both visual and auditory clues or cues.

What are the visual skills needed in efficient word perception and recognition? The following list is submitted for your consideration.

1. Visual acuity - this refers to keenness of vision - the ability to see and identify targets at various distances.
2. Visual discrimination - the ability to differentiate between an n and an h or between ai and ia, or between came and come which really is vowel discrimination.
3. Visual figure-ground discrimination - the ability to separate the foreground from the background. Identifying the dominant visual cues of a word against the total word form is a manifestation of this skill.

4. Visual memory span - the ability to retain a mental image of successive visual stimuli.

5. Visual organization - the ability to fuse related elements into a meaningful pattern.

All of the above are amenable to training. One exception may be visual acuity, the limits of which are fixed anatomically. However, training, if judiciously planned and executed will aid a child in reaching the limit of his potentiality.

As implied in the foregoing discussion, word perception involves the visual act of identifying cues which evoke both the auditory and the psychological response. While some may believe that many can engage in pure silent reading where the total response is psychological in nature, research that I have been conducting has led me to believe otherwise. In fact, I have evidence to substantiate the conclusion that in all silent reading (including word-perception) will be found residues of earlier oral language patterns. Such a manifestation has been referred to as implicit speech, inner speech, silent speech, inner vocalization, sub-vocalization. In other words, a child is not reading silently unless he makes the same physical, mental, and emotional responses that he would make if he were reading orally. Some of these manifestations will be implicit in nature - not discernible by the naked eye.

All learning should be acquired in a sequential manner. In other words, we should go from the known to the unknown. All know that a word is learned more readily as a sight word if it is part of the child's understanding or speaking vocabulary - or to use other nomenclature, his aural-oral vocabulary.

All teachers recognize the truism that a child demonstrates more proficiency in independence in word recognition if the spoken counterpart of the word is already known.

This brings us to the second aspect of word perception, namely, the development of auditory skills. Although the auditory skills which I shall mention are usually learned as either pre-reading skills or are initiated and developed during the primary grades, yet there is further refinement in the later grades. No one would question the fact that the child should attend to the auditory signals related to the words of his aural-oral vocabulary. These are the auditory skills:

1. Auditory acuity - most often this has been referred to as keenness of hearing. Acuity is measured in terms of threshold or the minimal intensity or amplitude of a particular frequency that is discernible to the human ear by air conduction. While nature or heredity sets the limits of auditory acuity, teachers by organizing optimal learning environments and judiciously manipulating them can aid the child in reading the innate potentials of hearing acuity. You have heard, I am sure, that if a sighted person becomes blind, his hearing subsequently becomes sharper. More than likely, he is making more efficient use of the hearing with which nature has endowed him.
2. Auditory discrimination refers to the ability to make fine discriminations between sounds of close frequency or of

different quality. Certainly, it is imperative that the child be able to differentiate between words such as come and came, race and raze, and as one teacher facetiously said, hill and hell. Again, since some sounds are voiced while others are breath, such as the sibilants, both a voice and a breath sounds can be produced when the organs of speech are in the same relative positions. A case in point is the f and v sound or the th voiced and breath, or the s and z.

3. Auditory perception in its narrowest sense refers to an awareness that certain sounds are similar. Noting that cut and come have the same initial sounds, or that sat and hat have the same terminal sounds, and, again, that senator and miracle have the same medial sounds is a manifestation of the acquisition of this skill. Although I do not wish to become embroiled in a semantic discussion, I prefer to think of auditory perception as more than awareness - I humbly aver that it also includes the arousal of meaning, the association of a sound with a meaningful symbol.

4. Auditory memory span refers to the ability of the child or individual to reproduce a series of sounds. Frequently this ability is measured by having a person repeat a series of digits or sentences of varying lengths. Training in this auditory skill is begun early in a child's life and even during

pre-school days. Some researchers and writers list an inadequate memory span as a cause of reading retardation. Just to be the devil's advocate, I prefer to list such a manifestation as a correlate of retardation.

5. Auditory figure-ground discrimination refers to the ability of an individual to identify a sound element of a word against the total pronunciation of the word. While I have not seen this concept couched in such terms, it is my considered opinion that the inability to discriminate figure from ground auditorily accounts, to a large measure, for the inability of many children to use word attack skills. Also, it may account for the ineffectual manner in which students use the pronunciation key in a dictionary.

7. Auditory organization is the ability to organize oral signals into meaningful patterns. This may be viewed as the culmination of the six (6) skills or abilities listed above. Thus in attacking a new visual signal independently, a child after he has substituted elements from known words must associate appropriate oral signals with these elements. The final act of this process is to arrange these sounds into meaningful patterns. The concept, auditory organization, is also applicable to interpretative oral reading in which pitch, intonation, and rhythm, are uniquely organized into meaningful patterns which convey to an audience nuances of meaning intended by gifted authors.

All children must possess these skills at a sequential stage that is commensurate with their instructional level, else, they will experience difficulty in independence in word analysis. Some or all of them are needed as students attend to the auditory signals we usually refer to as the child's aural-oral vocabulary.

Visual or auditory skills are of little value if the child cannot recall sufficient experiences to bring to the visual or auditory signal to make them meaningful. This, then, brings us to our third task, namely:

> Building a rich background of experiences (perceptual-conceptual development) so that appropriate meanings may be evoked and associated with the visual or auditory signals we call words.

In reality we are talking about perceptual-conceptual readiness. Assuredly, we want the visual or auditory signal (stimulus) to evoke appropriate responses - those segments of a child's experiential background that are relevant to these signals.

Before proceeding further, let us define the two words - percepts and concepts. I am sure you will recognize the following postulate: "In any segment of a child's experience he is acquiring percepts and concepts - these are the materials of the thinking process - these are the meanings we associate with the visual or auditory signals we call words."

Percepts may be thought of or defined as what is known of an object, an event, a quality, a situation, or a relationship as a result of sensory experiences. It is more or less time bound--an awareness of present data which is

coupled, more or less, with memories or images of things past. It is not something separate nor distinct; rather it is part of an everchanging mental activity linked to preceding sensation and subsequent mental activities. It does not exist in isolation but tends to be bolstered by other related sensory experiences.

Concepts have been defined in a variety of ways, but all definitions carry a common core. On the one hand, it might be said that concepts are the end product of inductive thinking in which the child abstracts from related experiences that which is relevant to the understanding of an idea previously obtained. It is a generalization based upon previous experiences and that which a person is experiencing at any given moment. Concepts, on the other hand, have been described as the cognitive organizing systems which serve to bring pertinent features of past experiences to bear upon a present stimulus - the stimulus may be an object, an event, a relationship, a situation, a concept already acquired. Prior experiences with objects, to use an instance, equips a person to react similarly to objects of related kinds. In like manner, this process may be extended to include events, relationships, situations, etc. Concepts, then are one means whereby present perceptions (percepts) are shaped by past experiences (which may be referred to as memories or images). They are more or less stabilized percepts. In defining some of the properties of concepts we would be identifying and defining ways in which experiences are organized in a mental construct or schema.

Let us look at percepts more closely. As we stated, percepts are derived as a result of sensory experience - through the act of perceiving.

Two conditions determine the veridicality of perception --- first, the sensory equipment nature or heredity has endowed the child with; and second, the nature of the environment the adult has organized and provided for the child. Since the teaching profession can do little with the first, its primary responsibility is to organize and judiciously manipulate a learning environment that lends itself to the acquisition of valid percepts.

Several attempts have been made by various scholars to classify percepts into neat and discrete categories. While the task is almost impossible, such an attempt will give a better insight into the nature of experiences provided for the child as a teacher strives to build and extend a rich experiential background. Thus, the child will be able to abstract from this rich background segments that will be related to universally accepted meanings of words - and, is this not improving word perception?

Time will permit only a brief listing of percepts. The following, taken from the literature,[6] are submitted for your information:

1. Percepts of <u>form</u> are acquired largely through visual and tactile sensory modalities. I am sure you have observed the following: If a friend has an object you or I wish to observe, we usually say: "May I see it?" When it is handed to us we look at it, we feel it, we may toss it from one hand to another as we assess its weight, we may smell it, or we may taste a small portion of it. Thus, in the act of perceiving we may use one to all of the sensory modalities.

2. Percepts of space are largely acquired through the sense of sight. Others are used, nevertheless. Factual perception will give an indication of the size and shape of the space occupied by an object. Not only can a person localize the position of an object in space, but he can orient it; not only can he assess the size and shape of an object, he can judge its distance from him or its nearness to another object. Retinal disparity, or the difference between the images on the retina of each eye, explains, at least anatomically, this astounding and complex process.

3. Percepts of time are based on the integration of events into perceptual patterns, and not primarily upon any sense of time. This, perhaps, gives us a basis for the understanding of the expression: "the years go by so swiftly, only the days are long."

4. Percepts of movement are a combination of percepts of time and space. For example, the child of today can tell in which direction a moving boat is going and the rate at which it is moving by noting the angle of the boat, the amount of spray and the nature of the so-called rooster tail. Also, he can make a judgment as to the load the boat is carrying. If he knows the width of the transom, the shape of the bottom, the heighth of the rooster tail, and the speed, he can organize these percepts into a perceptual

pattern and judge whether or not the boat is carrying a normal load or is loaded beyond safety limits set by the manufacturer.

5. Percepts of weight depend upon a combination of other percepts, such as size, movement, and tactile stimuli of pressure. All of us judge weights not only by holding them, but by moving them up and down or by tossing them from one hand to the other. Tactile pressure on a unit area of the body can be deceiving - this possibly is one explanation why children may say that a pound of lead is heavier than a pound of feathers.

6. Percepts of number, ordinarily depend upon visual, tactile, and occasionally, auditory clues. Evidently, the child has a percept of manyness before he begins to develop an understanding of counting. Today's child who has received instruction in modern mathematics has acquired percepts the child of yesteryear never grasped.

7. Social percepts are acquired, largely, by watching the behavior of others, both peers and adults. There is cause to question, oftimes, the number of and validity of percepts acquired through vicarious experiences. The child learns at an early age to interpret the behavior of adults. Confusion can and, I am sure, does exist, if a child has been reared in a home where many orders and instructions are given in a

loud and angry voice, then finds a teacher who expects obedience in a well modulated voice.

8. Aesthetic percepts are acquired by a patterning of other percepts. These may include form, size, shape, number, rhythm, etc. Things the child likes is beautiful, something he dislikes is ugly. This emotional attitude and other factors influence his perception of what is beautiful, and thus aesthetic values upon objects, a musical theme, a piece of art or sculpture, hair styles, dress, room decorations, etc.
9. Percepts of humor find their basis in the incongruities of life itself. The so-called punch line, is an incongruity and is far removed from the context. Laughing or smiling is innate, but the number of things laughed at grows as the child accrues a more rich experiential background. The emotional climate influences the so-called sense of humor - not only a child, but an adult who is ill, tired or cross will not enjoy a situation at which he might laugh at if the emotional climate were different.

This brief discussion of the nine categories into which most, if not all, percepts may be placed, is presented with the hope that you will do two things, namely, read more widely in the area; and secondly, that you will organize the optimal learning environment and judiciously manipulate it so that the percepts your children acquire will be valid ones. It can be stated without fear of

contradiction that they are the sine qua non of the raw materials that form the ingredients of concepts. Both concepts and percepts are the main materials of the thinking processes. If a chain is no stronger than its weakest link, by the same token, concepts are no more valid than the validity of one of the building blocks of concepts, percepts. Words, oral and visual signals, are the convenient hooks upon which we hang selected segments of our experiences. And I repeat, improving word perception must be concerned with the acquisition of valid percepts and concepts. More about concepts later.

As a child perceives or observes the environment the adult has built for him, the following guidelines will, hopefully, aid him in his desire to achieve veridicality of perception.

1. Are the viewpoint and purpose of the observation clearly fixed?
2. Was the observer or perceiver in the appropriate physical, mental or emotional state?
3. Was the observation casual or deliberate?
4. Was there a briefing? Did the observer know what he was going to observe?
5. Was the observer competent to make the observation? Did he have adequate background information to bring to the act of perceiving?
6. Was the validity of the observation guaranteed by subsequent discussion?
7. Would other observers agree with the percept obtained?
8. Would it be possible to check on the reliability of the observation at another time?

9. Was the observation reported (a record made) soon after it was observed?
10. Was the observation first hand (direct) or vicarious?
11. If it were vicarious, was the observer competent to assess the situation?
12. Was emotive language used in the description?
13. Were instruments or other devices used? Were they appropriate?
14. Did the percepts acquired cohere with other related facts?
15. And finally, were appropriate visual or auditory signals associated with the percept (s) acquired?

As has been stated previously, concepts are the end product of inductive thinking in which the child abstracts from related experiences that which is relevant to the understanding of an idea previously obtained. For instance, let us examine a hypothetical situation in which a child, in a point of time, acquires a concept of integrity:

1. Percepts
   a. Observation of Student Council handling minor infractions of traffic rules during class change.
   b. Observation of Town Council as they handle grievances submitted by citizens.
   c. Observation of a Magistrate handling traffic violations.
   d. Observation of Umpires as they handle infractions of rules in a football game.

e. Percepts gained as a child reads stories of famour men, such as Lincoln, Washington, Churchill, etc.

f. Percepts gained as a child observes his teacher's impartial treatment of all students.

g. Etc.

2. Images - an image is a centrally aroused experience that is related to some previous experiences but which occurs in the absence of the original stimulus.

a. Image of giving gifts to the less fortunate at some festive occasion.

b. Imagination influenced as a result of reading a story in which Christie Matheson visits every boy in a hospital ward.

c. Imagination influenced by participation in Boy Scout or Sea Scout work - anticipating the Service Project, a requirement for Eagle Scout Rank.

d. Image as a result of aiding in the collection of clothes, old furniture, etc., for the victims of flooded areas of the Mississippi or similar rivers.

3. Memories - a memory is usually thought of as a generic term for an experience based upon previous experience. As a generic term, memories may include percepts, images, and possibly other concepts.

a. Memory of the adult members of the household treating all children equitably.

b. Memory of attending a Boy Scout Jamboree and his contacts with Scouts of varying creeds and religious beliefs.

c. Memory of Bully in the neighborhood whose creed is "might makes right".

d. Memory of Father as he resolves a quarrel existing between brothers and/or sisters.

e. Memory of School Principal as he handles disciplinary cases.

4. Other related concepts such as: equity, justice, fairness, impartiality, dueness, etc.

These percepts, images, memories, and possibly sensations, are fused into concepts. Thus, and to reiterate, concepts are the end product of inductive thinking.

Few, if any, would question the necessity of acquiring concise, clear and well organized concepts. Their importance, particularly in the mental process of comprehension cannot be over-emphasized.

The acquisition of accurate, clear, and well organized concepts will be greatly enhanced if the following guidelines are observed as teachers structure the learning environments for their children:

1. Were sufficient validated percepts, images, memories, and possibly sensations abstracted from related experiences?
2. Were they selected from a variety of situations?
3. Were they truly representative cases?
4. Were conflicting percepts, images, memories, or sensations used?
5. In the fusion or integration of the ingredients of concepts, was appropriate weight or emphasis given to each?

6. Were other concepts used? If so, did they add to the clarity of the concept being developed?

7. Were only valid percepts used on concept formation?

In this presentation, I have explored what I consider to be three necessary facets of word perception, that is, first: improving visual skills; second, improving auditory skills; and finally, developing a perceptual - conceptual background.

Attending to the visual or auditory characteristics of the graphic symbols we call words, and associating appropriate meanings with them is Word Perception. Applying Hollingworth's theory of cue-reduction to these visual and auditory characteristics of the words, and finally enabling the child to associate appropriate segments of his ever-increasing experiential background with these symbols, is, in my humble opinion, Improving Word Perception.

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