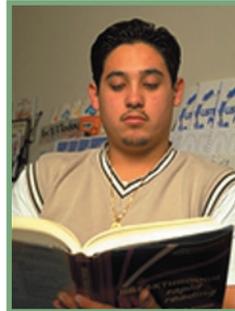


The Fundamental Reading Process

The characteristic manner in which your visual, perceptual and information processing capabilities function in reading.



Stanford E. Taylor



The Formation of the Process

When you first approach learning to read, you possess no *Fundamental Reading Process*. You bring to this stage of learning your vision, visual/functional skills and certain acquired habits of observation. But none of these competencies adequately prepare you to cope with the physically unnatural and perceptually demanding near-point visual activity of reading with its intricate discrimination of letters and words.

Over a period of years, you adapt to the activity of reading more or less successfully. Though all individuals strive to learn to read effectively and efficiently, there are many conditions that typically result in a rather inefficient and ineffective process of reading. The adequacy of an individual's visual/ functional skills, which affects both comfort and accuracy of perception; the sheer number of new words typically introduced each week can result in a slow and halting manner of reading that interferes with understanding; the considerable amount of non-fluent oral reading experienced as well as limited silent reading practice which inhibit the development of fluency in reading; sometimes an overstress on decoding (word attack) not balanced by "instant sight recognition" practice to ensure fluent comprehensive reading; and finally an individual's confidence in his/her capability to read with understanding; all condition the manner in which one formulates a *Fundamental Reading Process*.

And so in your learning to read years, you acquire, through "trial and error" adaptation, your *Fundamental*

Reading Process or the basic manner in which you will approach all reading tasks. This *Fundamental Reading Process* reflects the manner in which you have adapted your visual coordination to reading, acquired directional (left to right) control and developed accuracy in visual tracking across lines of print. These relatively involuntary behaviors interact with your personalized manner of perceiving words which in turn sets in motion a "loosely" intercorrelated feedback process between the manner in which you perceive words, input them into short-term memory, recognize syntax and achieve literal understanding.

By the time you reach the intermediate grades, this *Fundamental Reading Process* has, for the most part, become rather habitual and the characteristics of this process will either facilitate or inhibit your effectiveness in reading to learn and ultimately influence your enjoyment of reading.

Now as an adult, you open a book to read. In less than a second you are engaged in a process involving split-second functions and responses that you are unaware of and cannot consciously control. Although your reading may take many directions to achieve various goals, all reading begins with basic subliminal functions which encompass visual/ functional competence, as well as high speed word perception and short-term memory processes, all components of your *Fundamental Reading Process*.

You Read



As you read for any purpose you will employ a series of eye stops.



You Input into Short-term Memory

**As you read you read for any purpose any purpose you employ
will employ series a employ a series of eye stops.**



Visual Information is Chunked to Realize Meaning

**As you read / for any purpose / you will employ /
a series of eye stops.**

Visual/Functional Competence

Underlying and influencing the reading activity is the adequacy of one's visual acuity (ability to see clearly), binocular coordination and fusion (use of the two eyes in a coordinated manner that produces single vision), ocular motility (the ease with which the eyes move) and accuracy in tracking. These visual capabilities impact on the accuracy with which words are perceived and affect feelings of ease and comfort during reading.

Unfortunately most people do not possess the visual competence required for reading. Present estimates are that 30% to 60% of students and adults suffer in varying degrees from a lack of adequate visual coordination skills, poor ocular motility and inaccurate visual tracking. And those classified as underachievers suffer more dramatically from a lack of such visual competence.

Perceptual Accuracy/Efficiency

As one reads there is an awareness of a flow of words and ideas, but the reader is unaware that this flow of information is created through series of extremely brief visual impressions received each time the eyes pause during reading. Without conscious direction the eyes shift position across each line of print, pausing then to five times per second to accomplish word perceptions.

The reader experiences what seems to be a continuous flow of words, in part because these visual impres-

sions overlap each other so rapidly that they create the feeling of an uninterrupted flow of words. Further, eye movements and pauses are not detected because vision drops dramatically just prior to the movement of the eyes and quickly recovers when the eyes become stationary again. This prevents the reader from seeing the blur that would occur during eye movements that might suggest separate impressions.

Though we read through a series of small glimpses of print, no one is aware of any real limitations as to the amount of words seen at any one time. Many people mistakenly feel they can see phrases or even complete lines of print at a single glance. But, in fact, vision and perceptual limitations dramatically restrict what can be seen and saved from each eye pause to an average of a single word, more or less.

While reading, one may be aware of rereading or returning to read again a portion of the content that was not understood or a part that must be mulled over. But a reader is seldom, if ever, aware of regressions (reverse eye movements). Most readers employ a multitude of split second right-to-left eye movements that are immediately followed by recovery left-to-right eye movements.

Rarely, if ever, are these regressions and their recovery return movements detected by the reader in spite

of the fact that they could consume one-third or more of total reading time and up to one half of a beginning reader's total reading time. Regressions do not aid understanding; rather they inhibit and confuse perception of what is read and steal time and energy in the process. The nature of the ocular-motor activity you employ when you read, the number of eye pauses per word(s), the degree of habitual regression and even the average length of your eye-pause time are behaviors you acquired by "trial and error" during your learning-to-read years.

Information Processing

The series of word impressions received every second of reading are processed through short-term memory in the order in which they are perceived. There, these word impressions are either realized as properly sequenced expressions of language or they are resequenced (not consciously) if they are received out of order as a result of regressions. Individual words are quickly "chunked" (associated) into larger units of language which are finally realized mentally as phrases, complete sentences and eventually larger messages. If understanding is not achieved, there will be a conscious need to reread to clarify meaning.

The function of short-term memory is to deliver an accurate literal message to the mind. However, this is not a process that can be controlled and/or directed. One can only be aware of the outcome of this process.

There are limitations to the capability of short-term memory that affect retention and literal understanding. Typically short-term memory can hold only a maximum of five to seven items (perhaps partial impressions of words) at any one time and only for intervals of three to four seconds. Beyond these limits, loss of items occurs. These limitations make it vital that the reader be able to recognize words rapidly and accurately, in proper sequence and then quickly chunk words into larger syntactical units to minimize the number of items in short-term memory so retention can be maintained and be comprehensive.

Average adult readers reading at approximately 250 words per minute input four or more impressions per second into short-term memory. They "chunk" words fairly rapidly and realize sentences ranging from twelve to twenty-four words in four to eight seconds. If some words are lost in this process, these readers will compensate by using their greater capability with context to complete meaning with relative accuracy. By contrast, a very accomplished reader (450-500 words per minute) will realize the same sentences in just two to three seconds. And then there is the beginning reader who may require up to fifteen seconds to process a twelve-word sentence. This beginning reader will lose many more of his/her impressions as they pass through short-term memory and this reader does not possess the contextual capability to salvage meaning as well as a more advanced reader.

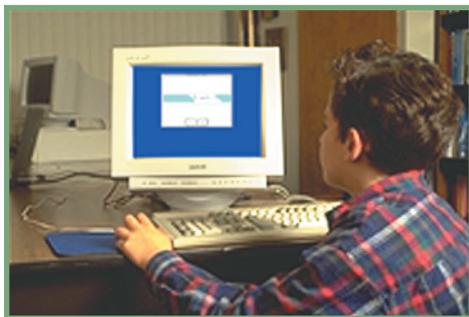
The question logically arises as to whether one really does need to see all the words to read. The answer can only be yes for complete accuracy. But the fact that all words must be seen does not mean that the same attention will be devoted to each and every word. However, the meaning and significance of individual words (and later "chunked" words and phrases) occurs many seconds after the words have been perceived and are being processed through short-term memory. Your long-term memory (experiential background) will finally interpret the meaning, significance, and importance of the words read and the literal messages derived.

Improving Fundamental Reading Process

Many who are concerned with reading development and improvement mistakenly focus almost exclusively on comprehension and the development of the higher level skills of understanding, interpretation, appreciation and problem solving with the conviction that the more fundamental basic reading behaviors and skills will “fall into line” and develop on their own. Unfortunately this does not typically occur. Though these basic skills and behaviors do improve and mature to some degree, the fact remains that the average adult is not truly a very efficient nor effective reader. Whether a school is involved with a basal reader; whole language or a combination approach to beginning reading, a consideration of the *Fundamental Reading Process* is critical. All facets of learning to read, from the moment of sensory impression through cognition, must be considered in a truly comprehensive reading curriculum.

The guidance and direction of a good teacher and the stimulus of good literature are essential ingredients in any beginning reading program. But the subliminal and more basic skills involved in forming every child's *Fundamental Reading Process* must be considered and carefully developed.

This does not mean that basic processes can be improved by conscious direction or attention to how one reads.



Because this process transcends awareness, improvement can only be achieved through training techniques that allow the reader to focus on the message of the reading content under viewing conditions that will alter and improve the process through which one perceives and the manner in which short-term memory functions. When words are perceived more rapidly and accu-

rately, are fused into meaning more quickly and in a more orderly fashion, an individual will read with increased rate which will provide a greater awareness of total context and thus increased understanding.

As the *Fundamental Reading Process* is improved through *Guided Reading*, one becomes more aware that it is possible to read with greater ease and comfort and with increased rates while maintaining thorough comprehension and understanding. And through



eye-movement recording with the *Visagraph II*, it is possible to record and analyze objectively the oculomotor changes that occur as the *Fundamental Reading Process* is improved. Through a *Guided Reading Program* visual coordination improves, the amount of visual activity (fixations and regressions) required to read is reduced and the regularity of performance denotes more successful input into short-term memory. Dramatic changes in the efficiency of reading can be accomplished with most individuals in forty or so lessons.