

Effective Reading

The key thing about reading is to recognize that reading is about groups of words. While a sentence (or a paragraph, an article, a book) is made up of words, meaning comes from groups of words together. Thus, the meaning of reading emerges from the start, the end and the middle of the sentence **at the same time**. The meaning of the word is provided by the sentence; of the sentence by the paragraph, and ultimately of the paragraph by the article or book. This is a theme pursued further in [An Overview Approach to Textbook Reading](#) and in [An Overview Approach to Reading Online Materials](#).

Establishing some Facts

First, let's establish some facts about reading and about you. To do that I'm going to ask you to do some reading, to demonstrate what goes on when you read, what goes on when you don't read well, and to help you determine how quickly you read now.

If reading is about groups of words, the key to this session is to recognize that **reading faster is better**. The experiments that we conduct here are designed to demonstrate why that is so and to show you techniques that will speed up your reading.

You will learn something about reading -- certainly I did the first time I did these experiments -- and also learn techniques that will help you get through your readings and assignments more quickly, with better understanding.

How quickly do you read?

So, if we want to increase the speed at which you read, we need to establish how quickly you are reading now.

Please go to this site: <http://www.readingsoft.com> and take the short speed reading test there. Click start to begin and then stop when you have finished. Note the speed at which you read the passage and take the comprehension questions, if you want to satisfy yourself that you have understood the passage. You may be interested in the table that is presented there:

Screen	Paper	Comprehension	Reader profile
100 wpm	110 wpm	50%	Insufficient
200 wpm	240 wpm	60%	Average reader
300 wpm	400 wpm	80%	Good reader
700 wpm	1000 wpm	85%	Excellent, accomplished reader

Certainly the big message of this reading is that **reading comprehension goes up as the reading speed goes up**. That's really what this workshop is about.

At the same time, there are three points we can make, based on the reading speed test:

1. It doesn't really matter how quickly you are reading **now**. The important thing is that, at the end of this workshop you will be reading more quickly and with better comprehension. You can test your speed at that point again: You will be reading faster.
2. We all read more slowly online than we read when we are reading on paper.
3. As you read, you don't need to hear the words in your head to understand them. In fact, if you feel you need to hear the words in your head as you read, you **are making the reading more difficult and harder to understand!** The average person speaks about 150 - 180 words a minute in normal conversation. All but the slowest readers read more quickly than



that. When you read at that kind of speed, you will become bored -- it's too slow -- and you will lose your focus.

What is Reading?

The first question to ask about reading is, really, what are you doing when you read? Take a moment and consider what your definition or description of the process of reading might be.

Perhaps these two short exercises can help. In both of them, I am making you, for a moment, into really bad readers.

1. Is reading about decoding letters into words? Certainly this is the first thing you learned as a child. Unless you're a Russian speaker, you will need to use the key at the right to decode the words at the left.

Оттава	в = w	с = s
Виннипег	г = g or h	н = n
Галифакс	л = l	п = p
Сан - Франциско	и = i	р = r
Пекин	ф = f	ц = ts

2. Is reading about focusing on each word and building these words up to understand the sentence? This is English, but it's presented in an unusual way. Please read this passage¹:

ssəbɒlɪ ləɪdʒɪgɔsbɛd tɔ vɪstɔri oʊ pɛdʒəloʒɪkəl bɒldnɛs
 vɪ dʒəntɪkəɪtɪd. The Institute's very
 tɛntɪvɛnsɪs ɪz bʌsɛd ɔn ə grʌnd bʌnd ʌnd dʒɪnɪŋ ɛxɛrɪmɛnt
 -ɪn tɛtʃɪŋ. It ɪz ɪn hænds-ɔn sɪənsɪs-ɔn bʌsɛd, pɒblɪm-
 fɔkʊsd ɛnʒɪnɪərɪŋ ɛdʒʊkəʃən thət kɔntɪnuɛs tɔ
 dɛfɪnɪtɪvɛ ɛdʒʊkəʃənɪz mɔdɛl tɔ thɪs dɛɪ. Fɔundɪŋ
 pɹɛzɪdɛnt Wɪllɪəm Bʌrtɔn Rɔbɛrtz, ɛspɔnsɪl oʊ
 ɛxɛrɪmɛntɪl ʌnd ɛxɛrɪɪnsɪl lɛərɪŋ ɪn 1881
 kɔntɹɪstɛd ʃʌrplɪ wɪth thɪ tɹɪɪd ʌnd thɪ mɛthɔd oʊ
 tɔtɛ mɛmɔɹɪzɪtɪɔn thət hɪd kɔmɛ tɔ dɛfɪnɪtɪvɛ
 sɪəntɪfɪk ɛdʒʊkəʃən bɪ thɪ mɪd-19th ɛntʊɹɪ.

What happens as you try to read this passage? Turing around the text forces you to read very slowly and concentrate on each word. These are long sentences and you may find that you tend to forget the beginning of the sentence by the time you get to the end.

In fact, it's almost impossible to read and understand in this way these exercises ask, for reading involves decoding the letters, seeing the words, and remembering the words long enough that you can understand what they mean with the other words in the sentence.

What does Reading Involve?

Take a moment and consider: what is your definition of reading? What does reading involve? Is it looking at the page or the computer screen only? Clearly not.

¹ This text, presented from left to right, is at the end of this document.



Let's take a moment to describe the process and to develop a general definition of reading. This is important because it's central to what we are doing in this course to-day.

So **Reading is**

Considering the exercises above, you will be saying that reading involves

- looking at the material
- recognizing the symbols
- remembering the symbols as you assemble them into words and sentences
- understanding the individual words
- recalling the individual words to assemble them into sentences and paragraphs, ultimately
- understanding the whole of the passage, and
- communicating or using the material: thinking, speaking, writing, drawing....

The suggestion here is that reading is your whole relationship with symbols, and this includes looking, recognizing symbols, remembering and recalling information, understanding individual words and what they mean in context and using that information effectively.

Looking and Reading

But, as a first step, reading involves looking at what you're trying to read.

How should your eyes move as you look at what you are reading? Trace the movement in the air. Is it smooth, jerky, continuous or stop-and-go? What do you think? What should your eyes do when you are reading? What do they actually do?

Find out by asking someone else to watch your eyes as you read this passage²:

Employment law

Employer/employee relations are governed by federal, provincial and territorial employment legislation. The Canada Labour Code is the federal law dealing with such matters as fair employment practices, labour standards, fair wages policy and safety of employees.

The employment standards legislation in each province and territory sets out mandatory minimum conditions of employment governing areas such as hours of work, overtime pay, minimum wages, holidays, vacations, employee benefit plans, pregnancy, parental leave and other leaves of absence, notice of termination of employment, and severance and termination pay.

² <https://globalconnections.hsbc.com/canada/en/tools-data/country-guides/ca/human-resources-and-employment-law>



All provincial and territorial governments have legislated minimum wage rates. For 2013, provincial and territorial rates for adult workers generally vary from C\$9.75 to C\$11.00 per hour.

Employment legislation generally limits normal hours of work per week; the maximum varies across the country, but typically ranges between 40 to 44 hours. The legislation often establishes methods to 'average' overtime over a longer period to permit different types of scheduling. At the employee's request, time off in lieu of overtime pay is generally permitted.

Each province and territory has different vacation entitlement but generally, two weeks vacation follows a year of employment, with provision for three or four weeks after employment for a number of years. The minimum annual vacation pay rate is generally 2% of annual earnings for each week of vacation entitlement. The number of statutory holidays depends on the city, province or territory.

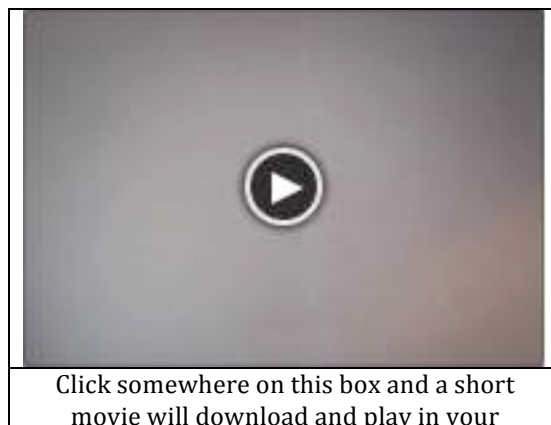
All jurisdictions in Canada have administrative agencies that handle human rights complaints and legislation designed to address discriminatory practices in the workplace on the basis of, for example, race, creed, colour, ethnic origin, age, sex, sexual orientation, marital status, citizenship, ancestry, place of origin, family status, record of offences and disability.

Health and safety laws oblige employers and employees to perform their duties in a safe manner and authorise ...

So, do your eyes move in a smooth movement? No, they don't, do they? They move in a series of jumps or jerky movements along the lines and down the page.

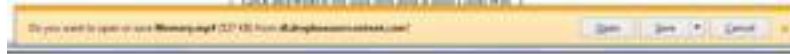
The reason for this is simple.

Take a look at this little video. What are the words on the card?

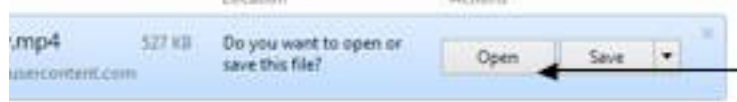


browser

Note that you **may** have to click twice to see this movie. The first click may present you with this box:



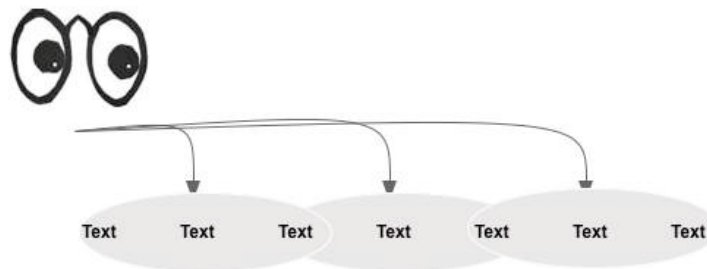
And you may also be presented with this box.



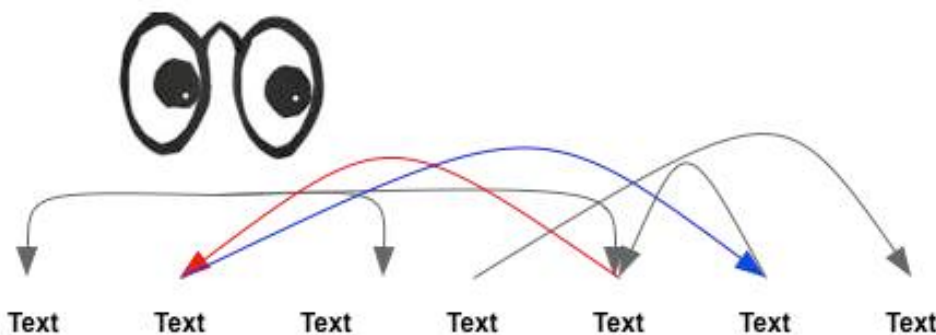
The words need to be stopped (momentarily) for you to recognize them. If your eyes are moving continuously, without stopping to look at words, you would not be able to read at all. By the way, the words refer to the little plastic washer behind a window crank on a car door, intended to prevent the rotation of the handle from cutting the upholstery, maybe only on antique cars to-day.

Improving Reading Speed

As you have seen, reading involves your looking at lines of print in a series of jumps. Perhaps you are reading these lines in about four jumps per line, something like this:



Or perhaps it isn't that regular. Often people stop, jump back, forget where they are and restart, and so on, so that their progress along the line of print looks more like this:

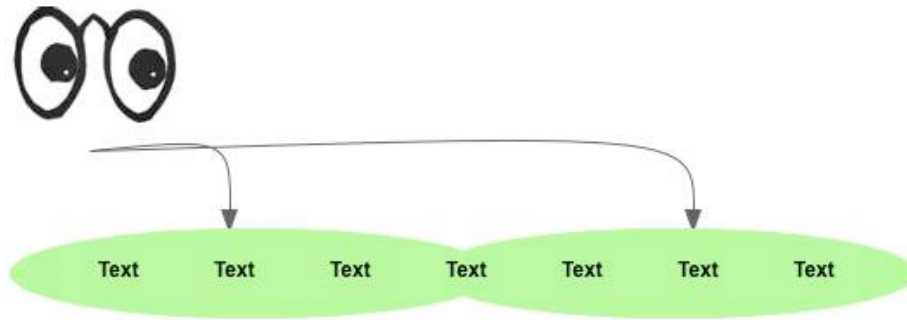


Once you recognize this, it's clear that there are two good strategies for immediately improving your reading speed, namely by

1. ensuring that you keep moving your eyes forward along the lines, rather than allowing yourself to jump around, and
2. increasing the number of words you are seeing at each look on the line, so that rather than reading lines in 4 looks, it becomes 3 looks, and then rather than 3 looks, it becomes 2.

³ Thanks to Rose Anne Leonard

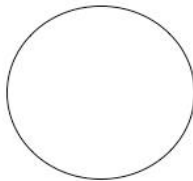




One more experiment

As one last experiment related to reading, let me ask you to imagine that there is a disk, about a meter in diameter, hanging in space in front of you. As someone else watches you, imagine the circumference of this circle and trace the circumference with your eyes.

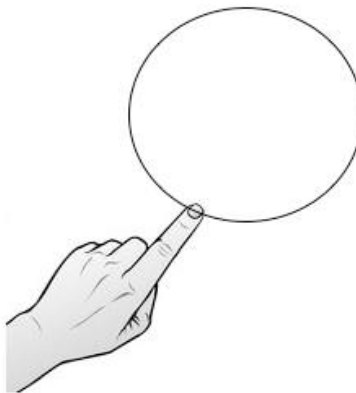
So, did your eyes trace out a nice, complete circle? Like this?



Or was the path your eyes traced something more like this?



If you were to use a pointer to give your eyes a point of reference, you would always complete the circle. Like this:

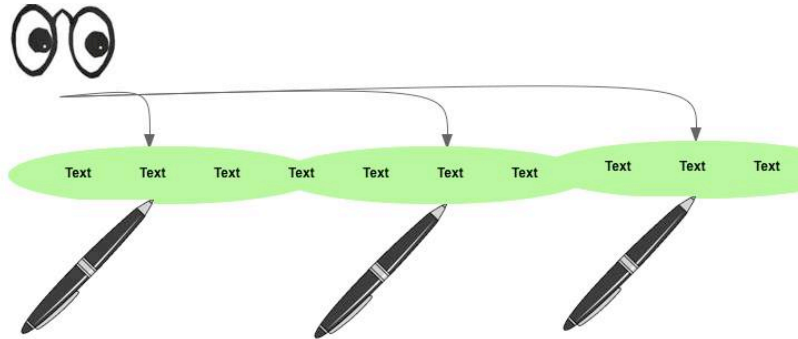


And the same can be used in your reading. A pencil works well if you are reading in a book or a finger works well on a tablet, while your mouse cursor is a good pointer if you are reading on a computer screen.



With a pointer you can determine the number of jumps that are comfortable for you for the lines of print that you are reading. Use the pointer to give yourself a point of reference on the page -- being careful not to point at each individual word -- to keep your eyes moving forward.

You'll also find that your concentration is better if you take each line in somewhat fewer looks than you find comfortable. Instead of 4 looks, do 3; instead of 3, do 2.



Of course you can also use your pencil, finger or cursor to make notes on your reading as you go along. But be selective, there's a danger if you use a highlighter that, by page 3, everything will seem important and you will be highlighting everything. More about this in [An Overview Approach to Textbook Reading](#) and in [An Overview Approach to Reading Online Materials](#).

MIT has a long history of pedagogical boldness balanced with deep introspection. The Institute's very existence is based on a grand and daring experiment in teaching. It is a hands-on, science-based, problem-focused engineering education that continues to define MIT's educational model to this day. Founding President William Barton Rogers' espousal of experimental and experiential learning in 1861 contrasted sharply with the tried and true method of rote memorization that had come to define a scientific education by the mid-19th century.

Institute-wide Task Force on the Future of MIT Education - Final Report July 28, 2014

http://web.mit.edu/future-report/TaskForceFinal_July28.pdf?

