## WHAT IS READING?

Reading is a complex cognitive process of decoding symbols in order to construct or derive meaning (reading comprehension). It is a means of language acquisition, of communication, and of sharing information and ideas. Like all language, it is a complex interaction between the text and the reader which is shaped by the reader's prior knowledge, experiences, attitude, and language community which is culturally and socially situated. The reading process requires continuous practice, development, and refinement.

Readers use a variety of reading strategies to assist with decoding (to translate symbols into sounds or visual representations of speech) and comprehension. Readers may use morpheme, semantics, syntax and context clues to identify the meaning of unknown words. Readers integrate the words they have read into their existing framework of knowledge or schema (schemata theory).

Other types of reading are not speech based writing systems, such as music notation or pictograms. The common link is the interpretation of symbols to extract the meaning from the visual notations.

## Overview

Currently most reading is either of the printed word from ink or toner on paper, such as in a book, magazine, newspaper, leaflet, or notebook, or of electronic displays, such as computer displays, television, mobile phones or ereaders. Handwritten text may also be
produced using a graphite pencil or a pen. Short texts may be written or painted on an object.

Often the text relates to the object, such as an address on an envelope, product info on packaging, or text on a traffic or street sign. A slogan may be painted on a wall. A text may also be produced by arranging stones of a different color in a wall or road. Short texts like these are sometimes referred to as environmental print.

Sometimes text or images are in relief, with or without using a color contrast. Words or images can be carved in stone, wood, or metal; instructions can be printed in relief on the plastic housing of a home appliance, or a myriad of other examples.

A requirement for reading is a good contrast between letters and background (depending on colors of letters and background, any pattern or image in the background, and lighting) and a suitable font size. In the case of a computer screen, not having to scroll horizontally is important.

The field of visual word recognition studies how people read individual words. A key technique in studying how individuals read text is eye tracking. This has revealed that reading is performed as a series of eye fixations with saccades between them. Humans also do not appear to fixate on every word in a text, but instead fixate to some words while apparently filling in the missing information using context. This is possible because human languages show certain linguistic regularities. ${ }^{\text {[citation needed] }}$

The process of recording information to be read later is writing. In the case of computer and microfiche storage there is the separate step of displaying the written text. For humans, reading is usually faster and easier than writing.

Reading is typically an individual activity, although on occasion a person will read out loud for the benefit of other listeners. Reading aloud for one's own use, for better comprehension, is a form of intrapersonal communication. Reading to young children is a
recommended way to instill language and expression, and to promote comprehension of text. Before the reintroduction of separated text in the late Middle Ages, the ability to read silently was considered rather remarkable. See Alberto Manguel (1996) A History of Reading. New York: Viking.

## Reading skills

Literacy is the ability to use the symbols of a writing system. To be able to interpret the information symbols represent, and to be able to re-create those same symbols so that others can derive the same meaning. Illiteracy is not having the ability to derive meaning from the symbols used in a writing system.

Dyslexia refers to a cognitive difficulty with reading and writing. It is defined as brainbased type of learning disability that specifically impairs a person's ability to read. ${ }^{[4]}$ The term dyslexia can refer to two disorders: developmental dyslexia which is a learning disability; alexia or acquired dyslexia refers to reading difficulties that occur following brain damage.

Major predictors of an individual's ability to read both alphabetic and nonalphabetic scripts are phonological awareness, rapid automatized naming and verbal IQ. ${ }^{[5]}$

## Skill development

Both the Lexical and the Sub-lexical cognitive processes contribute to how we learn to read.

Sub-lexical reading

Sub-lexical reading, involves teaching reading by associating characters or groups of characters with sounds or by using Phonics or Synthetic phonics learning and teaching methodology. Sometimes argued to be in competition with whole language methods.

## Lexical reading

Lexical reading involves acquiring words or phrases without attention to the characters or groups of characters that compose them or by using Whole language learning and teaching methodology. Sometimes argued to be in competition with Phonics and Synthetic phonics methods, and that the whole language approach tends to impair learning how to spell.

Other methods of teaching and learning to read have developed, and become somewhat controversial. ${ }^{[10]}$

Learning to read in a second language, especially in adulthood, may be a different process than learning to read a native language in childhood. There are cases of very young children learning to read without having been taught. ${ }^{[11]}$ Such was the case with Truman Capote who reportedly taught himself to read and write at the age of five. There are also accounts of people who taught themselves to read by comparing street signs or Biblical passages to speech. The novelist Nicholas Delbanco taught himself to read at age six during a transatlantic crossing by studying a book about boats. ${ }^{\text {[citation needed] }}$

Brain activity in young and older children can be used to predict future reading skill. Cross model mapping between the orthographic and phonologic areas in the brain are critical in reading. Thus, the amount of activation in the left dorsal inferior frontal gyrus while performing reading tasks can be used to predict later reading ability and advancement. Young children with higher phonological word characteristic processing have significantly better reading skills later on then older children who focus on wholeword orthographic representation. ${ }^{[12]}$

## Methods

Reading is an intensive process in which the eye quickly moves to assimilate text. Very little is actually seen accurately. It is necessary to understand visual perception and eye movement in order to understand the reading process. ${ }^{[13]}$

There are several types and methods of reading, with differing rates that can be attained for each, for different kinds of material and purposes:

- Subvocalized reading combines sight reading with internal sounding of the words as if spoken. Advocates of speed reading claim it can be a bad habit that slows reading and comprehension, but other studies indicate the reverse, particularly with difficult texts.
- Speed reading is a collection of methods for increasing reading speed without an unacceptable reduction in comprehension or retention. It is closely connected to speed learning.
- Proofreading is a kind of reading for the purpose of detecting typographical errors. One can learn to do it rapidly, and professional proofreaders typically acquire the ability to do so at high rates, faster for some kinds of material than for others, while they may largely suspend comprehension while doing so, except when needed to select among several possible words that a suspected typographic error allows.
- Rereading is reading a book more than once. "One cannot read a book: one can only reread it," Vladimir Nabokov once said. ${ }^{[16][17]}$ A paper published in the Journal of Consumer Research (Cristel Antonia (2012)) found re-reading offers mental health benefits because it allows for a more profound emotional connection and self-reflection, versus the first reading which is more focused on the events and plot. ${ }^{[18]}$
- Structure-Proposition-Evaluation (SPE) method, popularized by Mortimer Adler in How to Read a Book, mainly for non-fiction treatise, in which one reads a writing in three passes: (1) for the structure of the work, which might be
represented by an outline; (2) for the logical propositions made, organized into chains of inference; and (3) for evaluation of the merits of the arguments and conclusions. This method involves suspended judgment of the work or its arguments until they are fully understood. ${ }^{\text {[citation needed] }}$
- Survey-Question-Read-Recite-Review (SQ3R) method, often taught in public schools, which involves reading toward being able to teach what is read, and would be appropriate for instructors preparing to teach material without having to refer to notes during the lecture. ${ }^{\text {[citation needed] }}$
- Multiple Intelligences-based methods, which draw upon the reader's diverse ways of thinking and knowing to enrich his or her appreciation of the text. Reading is fundamentally a linguistic activity: one can basically comprehend a text without resorting to other intelligences, such as the visual (e.g., mentally "seeing" characters or events described), auditory (e.g., reading aloud or mentally "hearing" sounds described), or even the logical intelligence (e.g., considering "what if" scenarios or predicting how the text will unfold based on context clues). However, most readers already use several intelligences while reading, and making a habit of doing so in a more disciplined manner-i.e., constantly, or after every paragraph - can result in more vivid, memorable experience. ${ }^{\text {[citation needed] }}$
- Rapid Serial Visual Presentation (RSVP) reading involves presenting the words in a sentence one word at a time at the same location on the display screen, at a specified eccentricity. RSVP eliminates inter-word saccades, limits intra-word saccades, and prevents reader control of fixation times (Legge, Mansfield, \& Chung, 2001). RSVP controls for differences in reader eye movement, and consequently is often used to measure reading speed in experiments.


## Reading rate

Average reading rate in words per minute (wpm) depending on age and measured with different tests in English, French and German.

Note: the data from Taylor (English) and Landerl (German) are based on texts of increasing difficulty; other data were obtained when all age groups were reading the same text.

Rates of reading include reading for memorization (fewer than 100 words per minute [wpm]); reading for learning (100-200 wpm); reading for comprehension (200-400 wpm); and skimming (400-700 wpm). Reading for comprehension is the essence of the daily reading of most people. Skimming is for superficially processing large quantities of text at a low level of comprehension (below 50\%).

Advice for choosing the appropriate reading-rate includes reading flexibly, slowing when concepts are closely presented and when the material is new, and increasing when the material is familiar and of thin concept. Speed reading courses and books often encourage the reader to continually accelerate; comprehension tests lead the reader to believe his or her comprehension is continually improving; yet, competence-in-reading requires knowing that skimming is dangerous, as a default habit. ${ }^{[\text {citation needed] }}$

Reading speed requires a long time to reach adult levels. The table to the right shows how reading-rate varies with age, ${ }^{[19]}$ regardless of the period (1965 to 2005) and the language (English, French, German). The Taylor values probably are higher, for disregarding students who failed the comprehension test. The reading test by the French psychologist Pierre Lefavrais ("L'alouette", published in 1967) tested reading aloud, with a penalty for errors, and could, therefore, not be a rate greater than 150 wpm . According to Carver (1990), children's reading speed increases throughout the school years. On average, from grade 2 to college, reading rate increases 14 standard-length words per minute each year (where one standard-length word is defined as six characters in text, including punctuation and spaces).

## Types of tests

- Sight word reading: reading words of increasing difficulty until they become unable to read or understand the words presented to them. Difficulty is manipulated by using words that have more letters or syllables, are less common and have more complicated spelling-sound relationships. ${ }^{\text {[ciation needed] }}$
- Nonword reading: reading lists of pronounceable nonsense words out loud. The difficulty is increased by using longer words, and also by using words with more complex spelling or sound sequences. ${ }^{[\text {[ciation needed }]}$
- Reading comprehension: a passage is presented to the reader, which they must read either silently or out loud. Then a series of questions are presented that test the reader's comprehension of this passage.
- Reading fluency: the rate with which individuals can name words.
- Reading accuracy: the ability to correctly name a word on a page.

Some tests incorporate several of the above components at once. For instance, the Nelson-Denny Reading Test scores readers both on the speed with which they can read a passage, and also their ability to accurately answer questions about this passage. ${ }^{\text {[citation }}$ ${ }^{\text {needed }]}$ Recent research has questioned the validity of the Nelson-Denny Reading Test, especially with regard to the identification of reading disabilities. ${ }^{[20]}$

## Effects

## Lighting

Reading from paper and from some screens requires more lighting than many other activities. Therefore, the possibility of doing this comfortably in cafés, restaurants, buses, at bus stops or in parks greatly varies depending on available lighting and time of day. Starting in the 1950s, many offices and classrooms were over-illuminated. Since about 1990, there has been a movement to create reading environments with appropriate lighting levels (approximately 450 to 600 lux). ${ }^{[\text {citation needed] }}$

Reading from screens which produce their own light is less dependent on external light, except that this may be easier with little external light. For controlling what is on the screen (scrolling, turning the page, etc.), a touch screen or keyboard illumination further reduces the dependency on external light. ${ }^{\text {[citation needed] }}$

## History

The history of reading dates back to the invention of writing during the 4th millennium BC. Although reading print text is now an important way for the general population to access information, this has not always been the case. With some exceptions, only a small percentage of the population in many countries was considered literate before the Industrial Revolution. Some of the pre-modern societies with generally high literacy rates included classical Athens and the Islamic Caliphate. ${ }^{[21]}$

## Number Ten Most Read Book

Diary of Anne Frank - 27 Million Copies

## Diary of Anne Frank

## By Anne Frank

The Diary of a Young Girl is the English version book that is based on the writings from a diary, which was written by Anne Frank while she was in hiding for two years with her family during the Nazi occupation of the Netherlands. The book is now considered one of the key texts of the twentieth century.

Important!

## Number Nine Most Read Book

Think and Grow Rich - 30 Million Copies
Think and Grow Rich
By Napoleon Hill

Think and Grow Rich is a motivational book written by Napoleon Hill. It is a personal development and self improvement novel that was inspired by a suggestion that he received from the Scottish-American billionaire Andrew Carnegie.

Important!

## Number Eight Most Read Book

Gone With the Wind - 33 Million Copies

## Gone With the Wind

## By Margaret Mitchell

Gone With the Wind, a romantic drama by Margaret Mitchell. It is set in Georgia during the American Civil War and follows the life of Scarlett O'Hara, the daughter of an Irish immigrant plantation owner.

The novel won the coveted Pulitzer Prize and was adapted into a film of the same name that won an Academy Award.

Important!

## Number Seven Most Read Book

Twilight - The Saga - 43 Million Copies

## Twilight - The Saga

## By Stephenie Meyer

Twilight is the first book in an extremely popular young adult series written by Stephenie Meyer. The story is about a young girl who falls in love with a vampire. This is a saga that is full of romance and action.

She says 'First, he was a vampire. Second, there was a part of him that thirsted for my blood. And third, I was unconditionally and irrevocably in love with him'.

Important!

## Number Six Most Read Book

The Da Vinci Code - 57 Million Copies

## The Da Vinci Code

## By Dan Brown

The Da Vinci Code is a fiction novel written by American author Dan Brown. The story follows the investigations of Robert Langdon after a murder in the Louvre Museum in Paris.

He discovers an intriguing possibility that Jesus Christ may have been married to Mary Magdalene and fathered a child with her. The Da Vinci Code has been made into a movie starring Tom Hanks.

## Number Five Most Read Book

The Alchemist - 65 Million Copies

## The Alchemist

## By Paulo Coelho

The Alchemist was published in 1987 and became a Brazilian bestseller, it has go on to sell 65 million copies world-wide, becoming one of the best selling books in history. The Alchemist has been translated into more than 67 languages, winning the Guiness World Record for most translated book by a living author.

Paulo Coelho is not only one of the most widely read, but also one of the most influential authors writing today.

Important!

## Number Four Most Read Book

Lord of the Rings - 103 Million Copies

## Lord of the Rings

By J. R. R. Tolkien

The Lord of the Rings is an epic fantasy story written by the philologist J. R. R. Tolkien. The novel started out as a sequel to his earlier, far less complex children's fantasy story The Hobbit, but evolved into a much larger work.

The Lord of the Rings has been made into a film trilogy that consists of three live action fantasy epic films; The Fellowship of the Ring, The Two Towers and The Return of the King.

Important!

## Number Three Most Read Book

Harry Potter - 400 Million Copies

## Harry Potter

## By J. K. Rowling

The Harry Potter books are a fantasy series of seven novels by British writer J. K. Rowling. The majority of which have been made into action packed movies.

Children and adults alike have been fascinated by this fiction character and cannot get enough of the young hero's adventures.

## Important!

## Number Two Most Read Book

Quotations from the Works of Mao Tse-tung - 820 Million Copies

## Quotations from the Works of Mao Tse-tung

## By Mao Tse-tung

The Quotations from the Works of Mao Tse-tung, or as it was commonly called, the 'little red book' of Mao Tse-tung, was a personal explanation to the people of China of the ideology of the Chinese Communist Party.

Important!

## Number One Most Read Book

The Bible - 3.9 Billion Copies

## The Bible

The Bible still remains at the top as the most read book in the world.
The Bible is the account of God's action in the world and his purpose with all creation. The writing of the Bible was accomplished over sixteen centuries and is a quite amazing collection of sixty six books containing the messages of God.

