

IF ONLY I KNEW HOW TO DO IT...

How to study effectively at university?

Learning techniques: READING

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Who is a good reader?

- Likes reading
- While reading, can rely on previous knowledge
- Asks questions
- Draws conclusions, summarizes
- Sees clearly what he/she understood and which parts were not clear
- Is able to read and process different texts with the most efficient reading technique, depending on the aim

Mistakes, problems in reading

1. Reading aloud (vocalization):

- Not efficient
- Lowers the speed of reading (reading is much faster than speaking)
- May be silent movement of lips (unknown to the reader himself)
- Techniques to leave this habit – e.g. keep a piece of paper between your lips

2. Subvocalization (saying out the words mentally):

- We are attached to the words in the text (not to their information content)
- Hinders grasping the thoughts behind words, conveying the main message
- Not conscious, many deny it → not easy to combat
- Conscious practice is needed:
 - ✓ After reading a paragraph we summarize the main thoughts with our own words
 - ✓ We take a stand
 - ✓ Represent graphically what we have read

Mistakes, problems in reading

3. Following the text with fingers

- Symptom of very slow, word by word reading
- Hinders the eyes in capturing larger sections (even a page) of written text

4. Reading the text word by word

- Reading each word separately – it is difficult to grasp the meaning of sentences
- Such readers understand the words themselves, but cannot understand the meaning/message of the whole sentence
- The rhythm of progress/stops in reading is not appropriate

Visual processing of written texts

Eyes make short, rapid movements (**saccades**),
combined with short stops (**fixations**).

Movement (saccade):

- Eyes make jumping movements
- Not continuous, there are stops
- Saccades are very quick (20-40 ms)

Stops (fixation):

- Keeping our gaze on a single location (200-250 ms)
- Lasts until we can identify the string of letters in our viewing field
- During each fixation: we obtain information from 4 characters to the left, 10 characters to the right
- (depends on writing system: Arabic, Hebrew: more characters to the left)
- We can read faster:
 - ✓ During a fixation we are able to see longer strings of letters – the eyes can view whole groups of words, whose meaning is grasped by the brain at the same time
 - ✓ If fixations follow each other quicker

Mistakes, problems in reading

5. Regression:

- We return to what we have already read (word, sentence or whole paragraph)
- The eyes move mechanically, but eye movements are not followed by intellectual processing
- Reason: bad habit, lack of concentration
- Combatting this problem: e.g. cover the text we have read; check ourselves (stop after each paragraph, recall/recite the main points of what we have read)

6. Searching for the next line:

- Symptom of bad readers: the eye movement is too short or too long, the beginning of the new line can be found only after correction eye movements
- Good readers: can switch to the new line with a single eye movement

Mistakes, problems in reading

7. Same speed used for each type of reading material:

- Speed should be adjusted to the type of reading material and the reader's intentions
- Slow reading does not ensure better understanding
- Speed of reading in linear correlation with level of understanding

6. Many unknown words

- Easy to improve: your vocabulary should be developed, extended

Reading techniques

Aims of reading:

- Reading for experience
- Reading for information
- Reading for knowledge

Type/length of text:

- Looking at a website
- Skimming a scientific paper
- Reading a crime story
- Reading scientific books / textbooks

Reading techniques

- Processing short texts:
 - Enough to read once
 - Short-term memory is very efficient – can view the whole text as a single unit
- Longer texts:
 - We need to read them multiple times
- Reading strategy is efficient if we know:
 - What is our aim with reading the text
 - What we want to know
 - How deep knowledge we want to acquire
- We decide which reading technique to apply after answering the above questions

Efficient reading is highly influenced by the fact if the reader chooses the most appropriate reading technique adjusted to the actual aim of reading.

The most frequent reading techniques

1. *Skimming/Scanning:*

- Aim: obtaining general impression.
- Necessary during orientation, selection process.
 - ✓ Finding *key words, expressions* – contain relevant information.
 - ✓ *Picking new information.*

2. *Detailed, deep, processing, active reading*

- *We process the text by moving from section to section (from sentence to sentence) – understanding, interpreting what we have read.*
- This kind of reading is essential when studying something.

The most frequent reading techniques

3. *Browsing:*

- Mixture of scanning and deep reading.
- *Our eyes scan the page, catching a word or expression every now and then.*
- *Whenever we stumble on a relevant word, we read that part in more detail.*
- Useful: browsing the net, or looking at recommended literature.

The most frequent reading techniques

4. Scanning/skipping:

- *Localizing information, looking for an expression, topic, data, numbers in a text.*
- E.g. finding departure/arrival of trains, planes
- Looking for data by browsing websites
- Reading scientific literature – looking for specific subtopics, data
- *Selective reading – **skipping***
- Reading speed is very high, we strongly focus our attention.

The most frequent reading techniques

5. Grasping the main point:

- Looking for the main message.
- Aim of reading: finding the *clue*.
- In the first stage of learning, it is worth looking for the clue.
- Looking for the main message: paragraphs should be basic units
- Textbooks: usually a paragraph is structured around a thought.
- Textbook authors often do not start the paragraph with the main message, rather an example or parallel phenomenon, to introduce the main thoughts.

The most frequent reading techniques

6. Critical reading:

- The most difficult reading technique,
- This requires the most background knowledge and most concentrated attention.
- We continuously confront our previous knowledge with what we are reading.
- E.g. we collect the opinion of different authors on a given topic, and based on these we establish our standpoint.
- Critical reading is essential when preparing home assignments, projects, scientific papers, preparing a research task.

The most frequent reading techniques

7. Reading with the aim of learning

- For efficient learning it is essential to master this technique → *learning from a textbook*
- Everybody has to develop their own strategy, depending on their ...
 - Individual skills
 - Previous practice
 - Emphasis on which part of reading material
- To obtain deep, secure knowledge: ca. 3x reading

The most frequent reading techniques

Everyday life: we apply each reading technique.

Most important: each technique should be applied according to the current situation.

Developing your reading skills

Developing mental factors

- Concentration/Focusing
- Memory
- Problem-solving
- Grasping the main message
- Understanding relationships
- Creating a system
- Vocabulary

Developing your reading skills

Developing vocabulary

- Not adequate vocabulary – difficult to acquire new knowledge, we cannot express ourselves appropriately
- The size of our vocabulary correlates with reading skills and IQ
- Vocabulary of a highly sophisticated adult: ca. 25000 words
- Reading: unknown words – stop reading process, block understanding
- Poor vocabulary – decreases reading efficiency
- Developing your vocabulary – use dictionaries (printed, online)

Developing your reading skills

Developing vocabulary

- Textbooks:
 - Glossary of scientific terms, definitions
 - Or: key words, expressions explained at the end of each chapter
- Word cards: unknown word/meaning
- Prepare your own glossary – computer – alphabetical order
- Analyzing words – words of Latin origin: prefix + word + suffix – several combinations
- Reading itself develops our vocabulary

Developing your reading skills

Developing visual and motor factors

- Experiments: less than 1/5 of our visual skills are used
- Speed of reading is influenced:
 - Relationships between letters, words – reading and understanding of inter-related, meaningful words is faster
 - When reading, we do not see the letters separately, but words
 - Identifying a word by a skilled reader: 200 ms
 - Ratio of known words
 - Words/texts within the interest of reader – read faster