You need to take executive control of your reading, and you can do this by reading strategically.

Strategic reading enables you to:
- Organise and evaluate information according to your purposes for reading particular texts
- Raise awareness of using strategies in other areas such as writing, researching, learning
- Take control of your own learning
- Extend your metacognitive awareness and development (more on this in Objective 2)

Characteristics of being strategic

Possessing an extensive knowledge base
- Declarative knowledge, i.e. 'knowing that': activated by recall, accessed quickly, allows connections to prior knowledge
- Procedural knowledge, i.e. 'knowing how': means being able to transform information into action
- Conditional knowledge, i.e. 'knowing when and why': being able to see value in the activity, explain circumstances, give rationale for using strategies

Being motivated to use strategies
- Strategies must be meaningful, that is, they have to be relevant to your situation and needs
- Your effort is controllable and internal; it cannot be imposed from outside
- You have to recognise the value of a given strategy before you will be motivated to use it

Having a variety of strategies to accomplish a goal or task
- You need a variety of strategies for decoding, comprehending, interpreting and studying a situation.

Being able to analyse a task
- Allows you to assess the situation at the time and to make adjustments whilst performing a task.

Being metacognitively aware
- Being metacognitive means being reflective and monitoring your comprehension
- Allows you to monitor progress and exert control over your learning and thinking

Notes

1 The material in this workshop comes from the following source, unless otherwise indicated:
### Metacognition

#### Metacognitive reading questionnaire

**Exercise.** Complete the following questionnaire. Discuss your responses in pairs.

<table>
<thead>
<tr>
<th>Item</th>
<th>Question</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>What is a good reader? How could you be a better reader?</td>
</tr>
<tr>
<td>2.</td>
<td>What causes you the greatest difficulty when you try to understand what you read?</td>
</tr>
<tr>
<td>3.</td>
<td>When you are reading and you have difficulty, what do you do?</td>
</tr>
</tbody>
</table>
| 4.   | a. What do you do when you read something that you don’t understand?  
    | b. What do you do when you come to a concept you don’t know? |
| 5.   | What might stop you when you are reading? |
| 6.   | What could you do to be better at understanding what you read? |
| 7.   | What aids could you use to help your reading? |
| 8.   | Do you ever repeat what you are reading in your own words? yes [ ] no [ ] |
| 9.   | Do you ever reread something that you don’t understand? yes [ ] no [ ] |
| 10.  | Do you ever ask yourself questions as you read? yes [ ] no [ ] |
| 11.  | How would you teach university students to read? |
| 12.  | What is the best advice you have ever been given about reading? |

**Notes**

**Sources:**


Saskatchewan Education. n.d. Sample reading strategies questionnaire.  
**Metacognitive Strategies for Successful Learning**

**Awareness**
- Consciously identify what you already know
- Define the learning goal
- Consider your personal resources (e.g. textbooks, access to the library, access to a computer work station or a quiet study area)
- Consider the task requirements (essay test, multiple choice, etc.)
- Determine how your performance will be evaluated
- Consider your motivation level
- Determine your level of anxiety

**Planning**
- Estimate the time required to complete the task
- Plan study time into your schedule and set priorities
- Make a checklist of what needs to happen when
- Organize materials
- Take the necessary steps to learn by using strategies like outlining, mnemonics (memory aids), diagramming, etc.

**Monitoring and Reflection**
- Reflect on the learning process, keeping track of what works and what doesn't work for you
- Monitor your own learning by questioning and self-testing
- Provide your own feedback
- Keep concentration and motivation high

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**The 4-S system of reading**

To make your reading effective, focused and critical, consider using the ‘4-S system’:\(^4\)

- **Search** out the structure
  - focus on the structure of the text
  - Examine textual features, e.g. title, abstract, contents, introduction, headings, index
  - Find out what is in the text

- **Skim** the text
  - Surface reading of the text: abstract, introduction, conclusion, subheadings, topic sentences
  - Locate general ideas
  - Gain an overview of the author’s position

- **Select** the key material
  - Locate specific information, e.g. a particular chapter, introduction, discussion section of a report
  - Critically evaluate and question the argument/evidence

- **Study** the key material
  - More involved reading
  - Analyse title, the logic of the argument
  - Read more than once
  - Compare with other readings
  - Intensive note-taking
  - May require using a discipline-specific dictionary, web-sites, general texts etc.

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To this, you should add,
- **Re-read/revise** your notes within 24 hours to consolidate your understanding of the new information

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\(^4\) Source:
Boddington, Paula and John Clanchy.
Improving comprehension

Novice readers
1. focus on individual words
2. cannot adjust their reading rate
3. are not aware of alternative strategies to enhance comprehension
4. cannot monitor their own comprehension

Expert readers have
1. rapid decoding skills
2. large vocabularies
3. knowledge of text features
4. knowledge of a variety of strategies to enhance comprehension

Ways to enhance comprehension
1. tap/draw on background knowledge
   - do some web-searching
   - ask people
   - check specialist dictionaries
   - read general texts
   - familiarise yourself with key terms

Exercise. Background knowledge: Read the following texts. What are they about?

TEXT 1
Rustia reported that the polarity in biaxial forms of planarian can be determined by the direction of the ciliary beat with the aid of carbon or carmine suspension in water. According to Rustia’s report, the presence of rudimentary ganglia shows that the motor reactions of anophthalmic forms are much more than those of acephalic forms. The decerebrate planarian shows paucity of locomotion.

If you don’t have enough background knowledge about neurology, you might find it difficult to understand the above text. If, however, you came across the text below, you would probably be able to make a start:

TEXT 2
Bruce put his utmost into his school work and upon graduation he left the US to travel the world learning from the brightest and the best in each field of speciality. He also travelled to remote schools on the Far East and studied for years under the masters of the various martial arts. Upon returning to the United States, he set out on a fact-finding mission into the depraved parts of Gotham’s seedier districts to see how the criminal element had evolved. While there he became involved in a street brawl where he was seriously injured. He managed to make his way back to Wayne Manor and slumped in his study slowly bleeding; he considered the situation. He was injured because the local criminals would not fear him as plain common man on the street, yet his father always maintained that criminals were a superstitious and cowardly lot. He needed to make them fear but how?

2. set purposes for reading
   - why are you reading this text?
   - what do you want to know?

3. make predictions prior to, and during, reading: preview the text
   - what do you think will be the author’s line of argument?
   - what evidence will be used?
   - how will the evidence be used?

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5 Source:

6 Source:
Metacognition

What Is Metacognition?
Metacognition consists of two basic processes occurring simultaneously: monitoring your progress as you learn, and making changes and adapting your strategies if you perceive you are not doing so well. It’s about self-reflection, self-responsibility and initiative, as well as goal setting and time management.

"Metacognitive skills include taking conscious control of learning, planning and selecting strategies, monitoring the progress of learning, correcting errors, analyzing the effectiveness of learning strategies, and changing learning behaviors and strategies when necessary."

How Does a Novice Learner Differ from an Expert Learner?
Novice learners don’t stop to evaluate their comprehension of the material. They generally don’t examine the quality of their work or stop to make revisions as they go along. Satisfied with just scratching the surface, novice learners don’t attempt to examine a problem in depth. They don’t make connections or see the relevance of the material in their lives.

Expert learners are "more aware than novices of when they need to check for errors, why they fail to comprehend, and how they need to redirect their efforts". Expert learners are

- strategic
- reflective
- self-regulating

Metacognition and reading
Take reading for example. We’ve all experienced the phenomenon of reading a page (or a whole chapter!) in a textbook and then realizing we haven’t comprehended a single thing. A novice learner would go on to the next page, thinking that merely reading the words on a page is enough. An expert learner would re-read the page, find something easier to read, or flag a difficult passage to ask for clarification from an instructor or peers later.

Metacognition involves knowledge of three things: the person, the task, and the strategy to use to accomplish the task. A student needs to be able to analyze the demands of a task. Next, he or she needs to compare those demands to his or her abilities and skills, and decide on a way to go about performing the task. Thus, to be successful, the student needs not only to understand the task and his or her own learning abilities, but also to have a set of strategies from which to choose when approaching a task.

Another aspect of metacognition involves knowing how one is doing in making progress toward goals. After identifying or generating an effective strategy to use to tackle a task, one also monitors the problem-solving to see if the strategy chosen is effective. Self-monitoring includes being able to follow through and make changes when needed.

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Metacognition involves students actively assembling, coordinating, integrating, monitoring, and evaluating knowledge as they learn it.” (Fountain and Fusco, in Costa). "Questions can make students aware of their own thought processes. Examples: What am I doing? Why am I doing it? Why is it important? How or where does this fit in with what I already know? What questions do I have? Do I need a specific plan to understand or learn about this? How can I use this information in other areas of my life? How effective have I been in this process? Do I need to do more?” (Art Costa)

Metacognition involves paying very effective attention and organizing in one's own mind those things being understood as one pays attention.

Why Are Metacognitive Strategies So Important?
As students become more skilled at using metacognitive strategies, they gain confidence and become more independent as learners. Independence leads to ownership as students realize they can pursue their own intellectual needs and discover a world of information at their fingertips.

Skim reading
Reading for assignments
Whenever you read in an academic context you are usually reading with particular purposes in mind. It is no different when you read for your assignments.

Skim reading: ensuring task-focused information
Because of the structure of the paragraph in academic writing it is possible to skim read in some circumstances in order to decide whether it is worth your reading that source more intensively (i.e. every word of it), and this is the case with the paper.

Skim reading is useful when you want to find out whether or not a journal article (or other sources) has information that will be useful to you for the particular topic with which you are dealing. If you can avoid it, you don't want to read a 40pg article when only 5pgs of one section in the article are relevant to your topic.

Your objective in skimming is to find out whether the author is actually discussing matters relevant to your topic. Ask yourself: What precisely is the author talking about?

**Step 1**
Read the Introduction **intensively** to determine the author’s purposes—precisely what she/he set out to do and why. Perhaps the argument to be developed will be mentioned and/or the conclusions reached will be stated. It can also be useful to read the conclusion intensively at this stage.

**Step 2**
Read quickly through the sub-division headings trying to work out what might be more or less relevant for your topic.

**Step 3**
You can now begin to skim read first and/or last sentences in the paragraphs. These are topic sentences that carry the main ideas or generalisations that the author wants to develop. These main ideas are brought forward to support his/her position—the overall thesis being developed.

Notes
Types of text structure

Expository text structures
Expository, or informational, texts, come in a variety of structures.

NOTE: TEXT STRUCTURES ARE OFTEN EMBEDDED WITHIN ONE ANOTHER.

<table>
<thead>
<tr>
<th>Structure</th>
<th>Description</th>
<th>Cue words</th>
</tr>
</thead>
<tbody>
<tr>
<td>description-</td>
<td>The author describes a topic by listing characteristics and features or giving</td>
<td>for example, characteristics are</td>
</tr>
<tr>
<td>definition</td>
<td>examples.</td>
<td></td>
</tr>
<tr>
<td>sequential</td>
<td>The author lists items or events in numerical or chronological order.</td>
<td>first, second, third, next, then, finally, before, when, always</td>
</tr>
<tr>
<td>comparison-</td>
<td>The author explains how two or more things are alike and/or how they are</td>
<td>different, in contrast, similarly, alike, on the other hand,</td>
</tr>
<tr>
<td>contrast</td>
<td>different.</td>
<td></td>
</tr>
<tr>
<td>cause-effect</td>
<td>The author lists one or more causes and the resulting effect or effects.</td>
<td>reasons why, if ... then, as a result, therefore, because, consequently, so</td>
</tr>
<tr>
<td>problem-solution</td>
<td>The author states a problem and lists one or more solutions for the problem.</td>
<td>but, although, however, yet, problem is/dilemma is/puzzle is solved, question posed and answered.</td>
</tr>
</tbody>
</table>

Comprehension

Dealing with new concepts/ideas
When dealing with new concepts or ideas, you need to think about

- physical descriptions of the concept (if appropriate)
- its key features
- comparisons to related concepts

Background knowledge maintenance
Sometimes, you have appropriate background knowledge available and you have been able to select/retrieve it, but you might not be able to maintain that knowledge while reading.

Background knowledge may break down when

- you are bored or unmotivated
- a text is lengthy, difficult or poorly organised. This leads to cognitive overload, meaning that your reading processes shut down and you can no longer decode, understand and synthesise information across the entire text
- other, ‘life’ problems are on your mind (social, family etc)

The results are:

- passive reading, i.e. there is no monitoring of comprehension
- piecemeal reading, i.e. you do not integrate new ideas/concepts into your background knowledge as you read each new section/article etc. and you begin to generate a new set of background knowledge for each new segment of text that you encounter.

To enhance background knowledge maintenance

1. Use imagery/visualisation: visualise the text as you read to enhance recall and retention
2. Question yourself: monitor your own comprehension as you read. Stop periodically and ask yourself, "Does this make sense?"
3. Identify text structure: look for markers in the text and use them to maintain focus.

Fix-up strategies
You need to monitor your own comprehension and enact repair strategies when necessary. In fact, it might help you to think of comprehension in terms of ‘clicks and clunks’. When you are reading comfortably and understanding the text well, things are ‘clicking’ in to place. When your comprehension hits something, it ‘clunks’.

- physical descriptions of the concept (if appropriate)
- its key features
- comparisons to related concepts
How to avoid clunks

- Look at headings, pictures, graphs, diagrams, titles
- Think about what you already know about the subject
- Predict what you think the argument, evidence etc. will be about as you read
- Set purposes while reading ... what do you want to find out? what does your lecturer want you to find out?
- Identify text structure: how is it arranged? to what purpose?
- Picture things in your mind as you read
- Question yourself as you read. Does the text make sense?

What to do if you meet a clunk

- Slow down. Read ahead slowly and carefully to see if the meaning gets clearer.
- Re-read. If the meaning is not clear, re-read the parts you are not sure of.
- Consult outside sources. If things are still unclear, find a website, consult a specialist dictionary, read a general text, identify and research key terms.
- Discuss. Ask your supervisor, a lecturer, discuss with a study buddy or in a study group.

Seven indicators of successful reading

<table>
<thead>
<tr>
<th>Purposeful</th>
<th>Aimless</th>
</tr>
</thead>
<tbody>
<tr>
<td>You know why you are reading</td>
<td>Not sure why you are reading</td>
</tr>
<tr>
<td>You see the point of reading in relation to your course, an essay, a seminar, etc.</td>
<td>Find it difficult to identify what’s important and what’s not</td>
</tr>
<tr>
<td>You have a clear idea of what it is you are looking for as you read</td>
<td>Excessive highlighting or notetaking</td>
</tr>
<tr>
<td>Selective notetaking</td>
<td>A sense of frustration</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Active</th>
<th>Passive</th>
</tr>
</thead>
<tbody>
<tr>
<td>An open mind</td>
<td>A closed or ‘empty’ mind</td>
</tr>
<tr>
<td>Looking out for what is new and different from what you have read before (new ideas, new writers, extra references)</td>
<td>Reading only from the material set by the lecturer</td>
</tr>
<tr>
<td>Following up hints and leads to further reading</td>
<td>Accepting that the lecturer knows all there is to know about the subject, so the selected readings must be all you need to know</td>
</tr>
<tr>
<td>Choosing material beyond the core readings in the course reading list/brick</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Contextualising</th>
<th>Non-contextualising</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constantly trying to see the relation of what you are reading now to other things that you have read before</td>
<td>Trying to pull different ideas together at the end of the reading process rather than during it</td>
</tr>
<tr>
<td>Establishing who wrote the text, and when, and why, and why it is important</td>
<td>Reading texts in isolation</td>
</tr>
<tr>
<td>Situating your reading in some larger context (of theory, of other readings, of your course outline)</td>
<td>Reading whatever happens to be available</td>
</tr>
<tr>
<td>Asking yourself why your lecturer has set this reading for the course or for the assignment</td>
<td>Scrapy</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Critical</th>
<th>Uncritical</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engaging with the writer’s thinking: to get inside it and see both what the writer is saying and why they are saying it</td>
<td>Accepting without question what the writer has written</td>
</tr>
<tr>
<td>Willing to suspend disbelief long enough to come to terms with the writer’s ideas and general position (The “fair go” principle)</td>
<td>Feeling intellectually inadequate – “I don’t feel I’m in any position to question or dispute what the experts are saying. I just don’t know enough. I find it hard enough to understand what they are saying, let alone criticise it. I wouldn’t know where to start”</td>
</tr>
<tr>
<td>Reflecting sceptically on what you have read, regardless of the reputation or authority of the writer</td>
<td></td>
</tr>
<tr>
<td>Asking questions of the text: are the writer’s claims reasonable? Are they consistent? Are they supported with adequate evidence?</td>
<td></td>
</tr>
<tr>
<td>Arriving at an overall judgement about the worth of the writer’s ideas</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Efficient</th>
<th>Inefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>You achieve your purpose without wasting time or energy</td>
<td>Poor time management</td>
</tr>
<tr>
<td>Your reading is focused</td>
<td>Unable to get through the reading</td>
</tr>
<tr>
<td>When following up leads, you decide quickly whether or not they are likely to be productive</td>
<td>Distracted by leads</td>
</tr>
<tr>
<td>You are flexible in your style of reading</td>
<td>Rely on one reading style</td>
</tr>
</tbody>
</table>

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Managing the reading load: Prioritising

1. Catch up with the history of the topic by reading general references that summarise many papers. If you are new to the area, these might even include later year textbooks, or specialist encyclopedias or dictionaries. If you partly know the topic already, then monographs or review papers are a good place to start for background reading.

2. Note key authors and read seminal works (but don’t waste your time reading an old original paper just because everyone refers to it).

3. Sort authors into “camps” for and against theories/hypotheses. Make summaries of these.

4. The first paper(s) you read may only give one side of the story. Read the papers opposing your view early in your survey of the literature. You will have to counter opposing arguments in your paper/thesis.

5. Read the more recent papers first. They’ll summarise the earlier work and are likely to show you what the “cutting edge” issues, findings and theories are. But read earlier papers as you have time – your interpretation of what they say may differ from that of later authors.

6. If you are a postgraduate student, after reading older monographs or review articles, use Current Contents or Citation Indexes (see Science Web, for humanities as well as sciences) to find later, more up to date, research papers on the topic.

7. Again look at recent articles. What is recent in anthropology (perhaps newer than twenty years) is not recent in biochemistry (maybe six months), so you have to use topic-based judgment about what “recent” means.

8. Judge relevancy by how close to your topic a paper seems – is it on the same theoretical question? (high relevancy), about the same region? (medium to low relevancy) about the same people/problem (high to low relevancy), same approach but different topic? (may be high relevancy when you are starting, but may be low later on), on a related issue? (high to medium relevancy).

9. Judge the standing of a paper with the research community by how many people refer to it (favourably) and the journal in which it was published. *Science, Nature, Cell* and the proceedings of the National Academy of Science (PNAS) are the top scientific journals, but there are many other very reputable journals within each discipline. Ask lecturers/supervisors which are the reputable journals in your field of study.

10. Read with your main focus on the topic as you know it to be now, but with future possible directions of interest in mind.