

Why will this handout be helpful?

One of the most important skills a student is expected to develop is critical analytical thinking. Most lecturers see the development of this skill as vital if students are to do well at advanced level study.

This handout will give a short introduction to this skill, primarily in relation to reading, which you will need to do as part of researching your courseworks.

This handout might be especially helpful if...

- **You are coming from School:** and you need to develop skills to cope with the volume of reading you will be expected to do and the range of material.
- **You are coming from College:** and you are not used to reading competing claims by different authors and using their ideas as the basis of your own with little direction from tutors about what to read beyond basic reading lists.
- **You are new to higher education in the UK:** and you are not used to being expected to challenge the authors you are reading, being critical of their ideas and using what you read as the basis of your own thoughts..
- **You are returning to education:** and you are not used to reading formal academic literature.

Introduction:

Developing critical reading skills, questioning what you are reading, is vital at university. Tutors might recommend basic reading materials but it is then your responsibility to identify useful, reliable books, articles and other sources. That stage of your research requires you to think critically. Can I trust this author? Is the work up-to-date or have there been more recent developments? Once you have found sources worth using, you still need to think critically while you are reading. What do I think about the author's ideas? What evidence does the author provide to support those ideas and arguments? What do other authors say on the subject? Thinking critically while you read is a skill that can be developed through practice.

Accessibility:


This handout is available as a:


 **Word** document at – <http://studentacademicsupport.abertay.ac.uk/guides/reading.doc>

 **PDF** document at – <http://studentacademicsupport.abertay.ac.uk/guides/reading.pdf>

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 <http://StudentAcademicSupport.abertay.ac.uk>.

How good are you at the moment?

- **Do you know how to evaluate the relevance of a book or journal for your research?**
Yes: You use a range of methods to judge possible research sources, including:
 - Using the title and other information on the front and back covers for a first idea of whether the book will cover the topics you are interested in.
 - Checking the list of chapter headings for the keywords you have been using in journal databases and search engines.
 - Checking the index for the keywords you have been searching for.
 - Reading quickly through the introduction and conclusion, not in detail to find information but just to make sure that the book or article (or particular sections) will be worth reading more carefully.
 - Looking through the bibliography for the names of authors who have been recommended by tutors or whom you know are respected authorities in that subject.**No:** You tend to use sources you find through Google and whatever textbooks are left on the library shelves. Look at the bullet points above to help you improve how you select appropriate material for your research.

- **Can you identify the main theme and/or argument and then begin to question it while you are reading?**
Yes: You are able to use indexes and headings and to skim read to locate the most useful sections of your source material. You can then challenge the author's main points as you are reading by asking basic questions, such as: 'where is the evidence?', 'has the author used evidence or research findings appropriately?', 'what are the arguments against that point?', and 'what do other authors say?'.
No: You tend to accept what you are reading as reliable and true without questioning it. That tends to make it harder for you to assess different ideas presented by a range of authors on the same subject and to develop your own ideas.

- **Do you read actively?**
Yes: This involves asking questions before, during and after reading a text.
No: Passive reading does not involve any evaluation of the relevance or quality of the material you are considering. Try out one of the reading techniques, such as **SQ3R** outlined below.

Questions and answers:

- **Why is it important to develop reading skills?**
 Reading is essential to all fields of study. Each subject has its own way of structuring ideas and its own way of representing truth. Reading is the main way you can develop your subject knowledge and understanding. It is also the main way you can develop as a student, learning more about how to present your ideas, to structure arguments and to express yourself more effectively in an academic style.
- **What is critical analytical thinking?**
 Critical thinking means weighing up the arguments for and against. This involves considering an issue carefully, evaluating the evidence put forward in support of the belief or viewpoint and considering the implications of the belief or viewpoint.
 Analytical thinking involves being objective, looking at all sides of the argument, checking for accuracy, checking the logic, being aware of leading language, assertions and devious forms of argument.
- **What is an argument?**
 In most areas of academic study, arguments are put forward and defended by stating points of evidence that support the view. An argument has two parts: the **proposition** – what you intend to prove – and the **case** – how the proposition is backed up.

To help judge whether an author is making reasoned arguments or unsubstantiated assertions, follow this three-point check:

- Is there a clear and unambiguous proposition?
- Does the author's case consist of a series of points that follow on from each other in a logical order?
- Does the author's case support the proposition?

- **What is the difference between an argument and an assertion?**

An argument is a statement supported with evidence. An assertion differs from an argument in two ways:

- It makes a strong proposition without providing the supporting case.
- No evidence is provided to support the proposition.

To turn an assertion into an argument, supporting evidence needs to be added. As you read each main point, ask whether the author has made an assertion or an argument.

- **What should I be looking out for while I read?**

- **No clear definitions.** In everyday life we tend to use language rather loosely. However, in academic work ideas and concepts have to be explained clearly leaving no chance of misinterpretation. Does the author provide clear definitions? Do you agree with those definitions, and do other authors agree with them.
- **Cause and Effect.** A cause and effect relationship can only be argued for if there is evidence to support the argument that one thing (the effect) is a direct result of another (the cause). Ask whether your author has effectively demonstrated a cause and effect relationship. It might be that what you author claims as completely true is only partly supported by the evidence. You might think, because of what else you have been reading, that other factors that your author ignores are also relevant.
- **Generalisations.** A generalisation is a statement that covers broad areas of agreement and in daily life it is often unnecessary to support them with evidence. Sometimes generalisations are necessary but, like assertions, they can be misleading. A reasonable generalisation is one that could be backed up with evidence if required. Common sense opinions do not pass for academic work as they are often based on misconceived and prejudiced views. Is what you are reading of little use to you because the author uses too many generalisations? Does the author present as generalisations contentious points that other authors (or you) do not agree with?
- **Emotive use of language.** Sometimes language is used to persuade people by appealing to their emotions rather than their reason. The associations that words bring to our minds can influence our point of view. Does your author write persuasively, but with little substance behind that effective writing style? Do you need to read even more carefully and critically because of the writing style?
- **Persuader words.** An argument should attempt to persuade us by the logic of its reasoning. Sometimes words are used in an argument to persuade the reader not to question certain assumptions. Does your author presents a simplistic case, for example, by suggesting only two clear alternatives when you know and other authors confirm that a variety of options exist?
- **'Question begging'.** This occurs when a statement is assumed to be right that should be questioned. Words such as 'realise' and 'aware' can be used to imply that facts are self-evident. Does your author use language to suggest that statement are true when you should in fact be questioning them?
- **Conflation of ideas.** This involves the merging together of two separate points. An example of conflation is the following sentence:
 'Women during the war years were admired for their readiness to turn their hands to any sort of war work and to slip back into their domestic work afterwards.'
 This sentence merges the ideas that women were both ready to turn and ready to slip back into domesticity; the readiness to slip back needs to be questioned. Does your author combine ideas like this, possibly hiding a contentious point by placing next to a more generally acceptable one?

- **Appeal to authority.** A good argument should convince by its reason and evidence. If an argument relies solely on someone else's authority you should be suspicious.

How to practise:

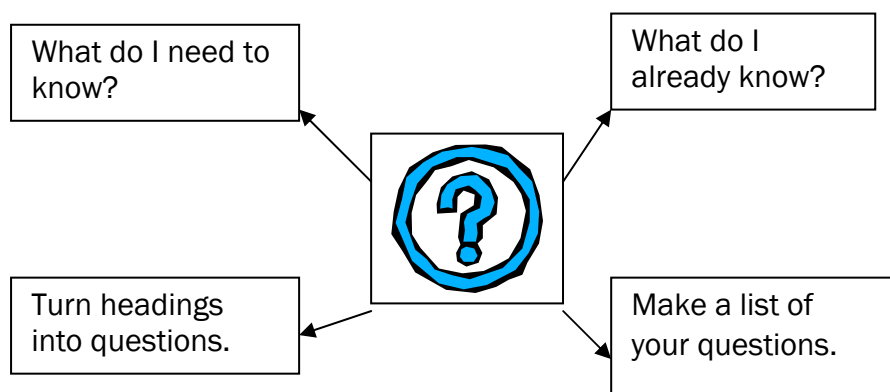
Critical analytical thinking when reading involves:

- Identifying the line of reasoning in the text.
- Critically evaluating the line of reasoning.
- Questioning surface appearances.
- Evaluating evidence according to valid criteria.
- Identifying evidence in the text.
- Identifying the writer's conclusion.
- Deciding whether the evidence supports the conclusion.

The SQ3R Method:

This useful, active learning technique enables you to gain the maximum benefit from available reading time. By incorporating it into your study methods you can develop an easier and more confident approach to all your academic work.

- **Survey** (1-10 minutes):
 - Gain an over view of the material by scanning the document for content and context. Look for boldface headings and sub-headings, graphs, maps, end of chapter questions, summaries, abstracts and of course, the title.
 - Resist reading content but try and form an opinion on how useful this material is to your assignment. Discard if not really relevant.
 -
- **Question** (~1 minute):
 - This step and the read and recite steps are repeated over and over again as you read the whole chapter.
 - Write down questions like the ones shown here on the left third of a piece of paper or in the margins of the document. (See 'Taking Notes' handout.)



It is a good idea to have a system for keeping your notes from each source all together, such as in the table below.

Details about the source (e.g. author, title etc) that you will need for referencing.		
Notes/ Questions	Page no.	Comments on Information/Answers.
<ul style="list-style-type: none"> ▪ Main ideas of each paragraph. ▪ Paraphrased notes (own words). ▪ Important points. ▪ Quotes. 	Useful for later referral	An important part of the critical process. e.g. <ul style="list-style-type: none"> ▪ How does the information answer your questions? ▪ Do you agree/disagree with the author's point of view? Can this info. be related to other texts?

The active searching for answers to your questions will help you remember and understand the information. It also helps you to develop critical thinking skills.

- **Read** (depends how long/complicated the material is):
 - Look for main ideas and answers to your questions, one section at a time. Write these down in your own words on the right two-thirds of your paper (see 'Note-Taking'). Add more questions, if needed, as you read through each section. This requires concentration and time. Try not to get bogged down in too much detail, note down main ideas only.
 - Your notes may be linear or in the form of a 'Mind Map'....., whatever you find most useful. Highlighting the text, or notes in margins can also help to answer your questions.
- **Recite/Recall** (Write) (1-5 minutes):
 - Do this at the end of each section. Cover your written answers and notes before looking at the questions you wrote down on your paper before you read the section. Using your own words and from memory only, see if you can answer the questions, verbally or by writing them down. Check these answers against those you wrote on the right hand side of the page. Not only will this help your comprehension but it should also help prepare you for class discussions.
- **Review** (5+ minutes):
 - This step further enhances our understanding and recall of the material through repetition.
 - Once you have completed the SQRR of each section of your document, you will have a list of answers or key ideas. Go back over all your questions, immediately and see if you can still recite them. If not, that is a section you need to read again.
 - Try this again later to reinforce the main points.

The main points again:

- You need to think critically all the time – about what you choose to read and then what you are reading.
- SQ3R is a study technique that might make your life easier. It will take time to get used to but, with practise, it will become a habit and may end up saving you time as you develop into an effective student by:
 - Being able to pick out important ideas faster.
 - Understanding complex material better.
 - Gaining greater retention of the material read.
 - Accumulating effective sets of notes, enabling you to review work quickly without having to re-read the original texts.
 - Being able to read faster without wasting time.
- Continually check both the arguments put forward by the authors you are reading to ensure that they are logical, sound and reasonable. Keep alert to devious forms of argument.

Want more?

Other hand-outs in this series that you might find useful:

- Taking good notes - <http://studentacademicsupport.abertay.ac.uk/guides/notes.pdf>
- Effective research techniques - <http://studentacademicsupport.abertay.ac.uk/guides/research.pdf>
- Writing essays - <http://studentacademicsupport.abertay.ac.uk/guides/essays.pdf>

Useful web links:

- **LearnHigher:** This excellent resource offers links to online materials on a wide range of essential skills for university study. Click on the 'Reading' or 'Critical Thinking and Reflection' links for refresher guides, podcasts, interactive quizzes, and more - <http://www.learnhigher.ac.uk/students.htm>
- **Manchester Metropolitan University:** Guide to critical reading, thinking and writing. <http://www.mmu.ac.uk/tips/reading/index.php>
- **The University of New South Wales** learning Centre : Reading for Understanding, another SQ3R overview. <http://www.lc.unsw.edu.au/onlib/sqw3r.html>
- **Virginia Tech** online study centre ; a thorough review of 'Increasing textbook reading comprehension by using SQ3R' <http://www.ucc.vt.edu/lynch/TextbookReading.htm>
- **Study Guides and Strategies** website; a short preview of the SQ3R reading technique. <http://www.studygs.net/texred2.htm>

At Abertay:

- **English as a foreign language:** contact Catherine Rice (c.rice@abertay.ac.uk) or Amanda Olivier (a.olivier@abertay.ac.uk).
- **Advice for disabled students** (including dyslexia): John Petrie (j.petrie@abertay.ac.uk).

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