

Reading Skills for University

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2. Introduction

Along with the very important skills of managing time and making effective notes at university is the task of reading. As you make the transition to university learning, changes in the way you must structure your time are apparent; there is much to do and you may quickly realize that you must take on the responsibility for structuring study and leisure times to be effective. Often, too, the transition to large lecture halls and note-making from lectures may be new to you; you have made notes in class before, but keeping up with the pace and volume of material presented can be a real challenge. Likewise reading changes at university. For many students, though, the changes required are not so obvious as the sharp increase in reading load and difficulty. The transition I mean here is from the kind of reading we've been doing all our lives to a new way of approaching the reading.

As you enter university, reading takes on a central role as part of your approach to learning. It is very important to read independently and effectively to learn significant portions of a course of study. It may be the case that you have failed to develop strong reading skills. You hope that the reading approaches you have used up until this point will work for you. Sadly, too many students read **passively**, failing to construct accurate comprehension with the guidance of a purpose or goal for reading. The result is that too many students begin to dislike their reading and come to view it as a necessary evil. Reading doesn't have to be an onerous task that you dread. But, to avoid these ill feelings about reading, you will need to invest a little time to develop more **active reading** strategies. This may be the first time that you consciously use a strategy for reading and so it may feel awkward for a period of time. However, our experience shows, and reading specialists know, that an active approach to reading will likely be more productive and interesting for you.

What does it mean to read actively?

Reading actively actually means a series of things. Perhaps most importantly is that active reading means reading with an awareness of a purpose for reading. Far too often students read aimlessly, hoping that the key ideas will somehow "sink in" and then eventually "surface" when they need to. Having a purpose is another way of saying that you have set goals for your readings. In many university text books, you may find chapters that begin with a brief note on learning goals, but you may find that you pass over these goals in the rush to get to the end of the chapter. You can use goals to focus your attention on specific aspects of a chapter that you are about to read. Without setting goals you are, by default, saying that everything has the same value and that you want to learn it all in the same depth and in the same detail. This can sound like an admirable way to approach reading, but in practice this often leads to frustration. Reading passively can lead you to forget large portions of the text soon after reading. Sometimes the text seems to resist structure and logical organization because you have overloaded your mind with new information.

In addition to setting goals and purposes for reading, active reading may involve using the structure of your reading to construct an overview for your reading which you use to select a focus. The structures of the reading materials vary almost as much as the readings themselves, but there are

some common features associated with various kinds of readings that readers can make effective use of. **Text books**, for example, usually contain chapter titles, introductions, headings, sub-headings, bold face or italicized type, and conclusions. They may also contain chapter learning objectives, review questions, summary sections, application sections, and notes and key words in the margins. Clearly these are meant to be used and can go a long way to assisting a reader in understanding and working with the information there. (See “Preparing to Read” below for how to use these structures.) Even if a text has few headings, readers can rely on the structures of the paragraphs contained in the text to access the same kind of information that the more prominent markers indicate: that is, the main divisions of ideas and how the ideas are elaborated. **Novels and journal articles** are bound by different structures, but an awareness of these can assist in an intelligent approach to the reading of these differently organized texts. The academic introduction to novels can provide a number of guidelines for how to read the novel, for example, and the abstract of a journal article serves the function of summarizing the contents of the article for the reader in simplified language. All of these structures assist the reader in developing an overview of what is about to be read and this allows readers to guide themselves through the text with a focus in mind. (See “Preparing to Read” for more detail.)

Active Reading is “Thinking Intensive”

Active reading also certainly means reading with a view to understand and relate the information to other readings, ideas and themes from lectures, and to the goals of your course and your learning. As well, in the manner we talked about becoming conscious of your approach to reading, active reading involves checking your understanding, monitoring for difficulties, and checking for ways to correct difficulties. It should be clear from these aspects of active reading that active reading is brain intensive; that is, it involves thinking as you read and directing that thinking to achieve certain reading goals. Some students make the mistake of assuming that this means that active reading will be time intensive too and then use that as an argument against doing the work of learning effectively through reading. It is important to know that in fact, active reading has been shown to save time. It does take time to adjust to this new approach to learning, but active reading helps to eliminate the wasteful and often mindless repetition that is necessitated by forgetting what you have read. As well, an active approach to reading involves selecting information relevant to a purpose, which may mean that you are reading only a percentage of what others might be mindlessly reading and that you are reading with better results.

Okay, so active reading involves using strategies or approaches to texts to meet certain goals and is thinking intensive to facilitate learning. What else is implied by the term active reading? Certainly active reading involves thinking about what is read rather than simply trying to memorize it. Often this thinking is aimed at mentally constructing a comprehension of the text by finding information related to your goals. Active reading can also apply to that time just after a reading has been done, during which time we should be asking analytical and critical questions about what we have read (discussed below) because these questions enable us to think beyond simply summarizing and repeating what an author has said. Though in some first year courses you may be able to get by by summarizing what the authors you read are saying, most certainly there will come a time when you will be expected to offer your thoughts on what you have read. If you haven’t read well enough to

summarize you won't be able to think about the reading -- active reading is a way of approaching reading which goes beyond the bare minimum and engages you in the material in way which perks your interest and drives your curiosity. In short, active reading assists you in doing what you came to university to learn how to do -- think deeply about issues of importance to us in our society.

A final word on active reading

Some students try to make their approach to reading such that they will always read without difficulty. No strategy can guarantee that reading will proceed without difficulty (some difficulty may be a sign that you're working at the understanding). So, as you develop your reading strategies, and as you read through this booklet and encounter a series of suggestions we have about good active reading strategies, remind yourself that it is important to remain flexible in your approach to reading, for different kinds of information as well as for different purposes. In this way you will allow yourself to approach readings in the ways most suited to those readings.

So now you know what active reading is and a little bit about why it is important and what its advantages are. But, how do you achieve this active orientation to reading? The sections below are intended to give you a thorough exposure to a variety of active reading strategies. It is probably not necessary to do every strategy listed all of the time. As you read through this booklet, select a variety of strategies and gradually add those that work to your repertoire of approaches. The end result should be that you become a more active, flexible -- and effective -- reader.

3. Preparing to Read

a. general beginning questions

One logical way of starting out is to pose a few simple questions from the list below as you begin any new reading. Depending on the kind of reading or the context of the reading, you might not always ask all these questions. Soon, however, the questions you ask regularly will become part of the way you approach all readings. The following questions are worthwhile to consider:

1. What do I know about this author? Has anything been mentioned so far in class or in other readings which gives me a hint about what to expect from this author?
2. When was this piece of text written? Does that time suggest any contextual information which will help me understand the material or think critically about it. (For example, a title such as "Equality in the Workplace" might be interpreted one way if were written in 1967 and possibly suggest different issues if it were written in 1995.)
3. At what point in my course does this reading come? What might I expect this reading to contribute to the development of the main concepts or themes in my course? Why am I reading this? Is it for class discussion? for an essay? to review for an exam?

4. What structures can I rely on: introduction, summary, chapter goals, headings, sub-headings, key words, glossaries, graphs, charts, and any visuals included in the text.

b. setting a purpose by surveying a chapter; the S and Q of SQ3R

As was mentioned in the introduction, having a purpose is another way of saying that you have set goals for your readings. Setting a purpose is intended to give you an awareness of how to be selective in your reading of the material. In many cases a survey of the material which includes the various structures mentioned above will allow you to gain a general understanding of the material and identify which areas you already have some knowledge of. By doing a survey, you can also set approximate time limits on portions of the reading, activate whatever knowledge you have about portions of the reading, and decide which parts to read with special emphasis. These decisions constitute the purpose a reader can use to direct himself/herself through a reading. Usually due to a fear that they will miss essential parts of the material, students are reluctant to be selective as they read. As a result, they choose to read everything as though it has equal importance to the focus of the course or to their own curiosity or needs for learning. This more thorough reading is necessary sometimes, especially when the content is something the reader has never encountered. Very frequently, however, this more thorough reading is unnecessary and costs time and may even reduce comprehension and recall for the reading.

In a sense, setting a purpose is choosing a reading process: are you intending to read to learn? to skim through to identify key concepts? scanning for something specific? The purpose or process you choose for reading changes the way you encounter the text. For example, if you were reading the newspaper you would probably not want to read it in the same way you would read portions of your text book. Likewise, if you were searching for a specific word in a dictionary, say the word “recall” you wouldn’t begin by reading every word listed under every letter from A to Q in order to find it. Reading to learn, skimming, and scanning are all processes of reading which accord with a different purpose. Adjusting your reading to these various processes can make your reading both more effective and more efficient. In fact, the skills of skimming and scanning are two skills taught in courses on “speed reading” to assist in the identification of passages that should be read more thoroughly and intensively.

When doing a survey of a chapter, it is advisable to set a short time limit on the first pass through the passages you intend to read. For example, you might want to limit yourself to around ten minutes to do a brief preview of a chapter of about thirty pages where there are clear headings, sub-headings, and bold-face type. Stretching the preview beyond this point will usually not improve its quality and it may waste time. (Of course as you first use this strategy or if you are using it for particularly difficult or complex material, you may wish to spend a little more time, say up to fifteen minutes.) Again, the preview is done by reading through the various structural elements of a chapter, interpreting them briefly, and then considering how the ideas might fit together, which ones will be areas of focus, which ones might be read through less intensively, and how long the sections of the reading will take. Some questions which can help direct the setting of a purpose follow:

1. What parts of this reading do I want to learn about and at what level do I want to know them.
2. If I read through the structural elements without the intervening text, what overview do these elements give me?
3. What are the main ideas this reading explores? How do they relate to other course related information? Are any already familiar to me? Are any completely foreign to me?

If we apply these questions to our heading in this section, which is “setting a purpose by surveying a chapter; the S and Q of SQ3R”, we might set our purpose as the following:

1. I want to learn how to set a purpose and how it will help my reading.
2. This heading tells me I am conducting a survey of a chapter.
3. The part about surveying was touched on briefly in the opening part of this handout. I am not sure what the “S and Q of SQ3R” part means at all. To understand this section I’ll need to figure out what “S and Q of SQ3R” means.

Essentially the survey allows you to prepare your mind for reading by giving you a brief look at the text you will encounter. Based on this brief encounter, you will have choices to make which can assist you in making sense of your reading. The survey is the first step in a reading/study strategy called SQ3R. SQ3R stands for Survey, Question, Read, Recite, Review. (Robinson, 1941) First introduced by Francis Robinson in 1941, the strategy has been around a long time. Since that time many other acronyms have been developed to represent similar strategies for reading (e.g., PQ4R, PQRST, OK5R, and Super 6Rs (Pauk, 1990)). All of the strategies share the initial step of becoming familiar with the contents of a text before beginning to read through. The other strategies maintain all the parts of SQ3R and add in notions of reflective and critical thinking along the way. In the way we will describe how to use SQ3R, you will encounter these other elements too.

The Q part of the strategy, again, means Question. Sometimes you may feel that a question is not required because the headings are clear. At other times, like with the heading of this section of the handout, you might have asked “what is SQ3R” intuitively. **Changing the heading into a question is perhaps the most direct and simple way to complete the questioning phase.** The kinds of questions you build will depend somewhat on the extent to which you understand a particular heading. Those headings which contain unfamiliar material will probably be questioned in such a way as aims to clarify what they mean. For those headings which contain familiar material, however, a series of questions which aim to understand, examine, analyze, or critique the content may be used. For example, and once again using the heading above, you might ask “why will I want to survey” or “what steps are involved in doing a correct survey” or “do I really need to survey all the time”. This question phase establishes an important opportunity for reading for clear understanding in that the questions we develop help us sharpen our concentration and focus and permit us to read with the purpose of answering them.

How can this strategy save you time?

In addition to focussing your reading of the text, these two steps can save you time when it comes time for you to study for exams. If you have approached texts using these two steps, repeating them can go a long way to bringing back to mind the material you have read and get you started testing yourself with the questions you have prepared. Instead of wasting time mechanically rewriting notes or, worse, rereading entire chapters, you can be reviewing the material directly and focussing your attention on those areas which need more substantial review. In this way you can save time both at initial reading and at review time. The few minutes you spend now surveying and questioning can literally save you hours of work later in the term.

c. guiding yourself through the reading: the first R of SQ3R

By generating questions, we are using the structures of a text placed by an author to guide us to specific information about the main ideas of the text. At this stage our main focus is to find the material which answers our questions; in other words, we are aiming at understanding and organizing the ideas we find in the reading. Though these strategies we are discussing will assist you in making sense of your readings, there will be some readings which are difficult and complex that will require further thinking and sometimes re-reading before we will fully grasp their intended meaning. (For some readings, it may even be necessary to go to another source altogether in order to

SQ3R (Robinson, 1961)

Survey. Skim and scan introduction, headings, sub-headings, topic sentences, summary etc. to get an overview of the reading task.

Question. Turn headings into questions to direct your reading and thinking.

Read. Search for answers to your questions and select main ideas.

Recite. To ensure your recall of the material, make sure you can recite key ideas and important details.

Review. It is essential to review the ideas that you have read so you can continue to think about them.

This strategy involves constructing an overview of the reading and is known for its question asking step.

find material at a level we can deal with more easily before we continue.) The focus at this point is not to make the process of reading effortless; the purpose of these strategies is to give you some level of control over how to proceed with the task of reading so that you can be effective.

As we read it is important to monitor how effectively we are constructing the meaning of the text for ourselves. Monitoring is a chief part of any strategy because it gives us important feedback about how to adjust our efforts to reach our goals, and this is especially important when we feel like we are off course. For example, if I have posed a few questions to guide myself through a section of text and I am becoming frustrated and confused, it is a good idea to stop briefly and try to figure out why. Sometimes we can adjust (say, by asking different questions) or we can decide to mark a particular section as an area of difficulty to return to later. In some cases we will find that text subsequent to the section which got us bogged down will clarify that section. To monitor our progress we want to know a little more than just how many pages we have covered. The questions below can serve as a good beginning:

1. How well do I understand this reading?
2. Have I been able to construct a reasonable meaning for this reading?
3. What questions do I have regarding parts that are unclear?
4. What are my difficulties? where can I go for help? what could correct this situation?
5. What is different about the structure of this reading and about what I want to learn?
6. Once you feel you understand, ask what is the relationship of this material to other materials or the relationship among parts of this reading.

An additional strategy to think about at this stage is to attempt to discover or describe the organizational pattern that the author is using to convey the information in the text. For example, how would you describe the organizational pattern of this part of the handout? Many would begin by saying that it is broken down from headings into sub-headings. Though this is correct, that answer misses the point entirely. The organizational pattern used in this part of the handout is something like “a description of the steps involved in a strategy”. As a consequence of identifying this organization feature, you could key into the fact that the main points of this part of the handout involve understanding in a detailed way the steps of the strategy SQ3R. Other organizational patterns exist and can be used to discover the primary focus of a part of a text. (Note that many organizational features can be mingled in one text and so it is probably most appropriate to say that you will be keying into the primary focus of a section of the text.) Other organizational features include:

The classification pattern where objects, areas, plants, animals, or materials are categorized in groups and sub-groups according to structure, function, composition or some other category.

The process/description pattern which explains how something works by providing an order or

sequence that comprises a system.

The factual statement pattern where a “fact” is considered to be any statement that defines or explains something and which, so far, has not been disproved. Facts may be used to clarify and define, to compare and contrast.

The problem solving pattern whereby the author describes or recounts how a question was answered through experimentation. Be sure you know the basic question being investigated, the kinds of observations made to answer the question, and how (or whether) we know that the question was answered.

The experiment/instructions pattern in which an experiment is to be performed exactly as prescribed with observations and explanations of what happened.

A combination of some or all of the above patterns. Note that other organizational patterns may be used by authors in your discipline.

- definition,
- classification,
- description,
- sequence of events,
- cause/effect or effect/cause,
- reasons/explanations,
- similarities or differences,
- generalization,
- hypothesis supported by arguments,
- for/against evaluation?

These patterns take some practice to identify, but once you have learned how to identify the way in which a reading is organized, you will be better able to focus in on the main ideas the author is presenting and learn the information in the way the author intended you to.

In any case, there is little chance of missing the point of the writing. Sometimes the headings foster certain questions which are not answered by the text and sometimes when we read through the text, we find that some things are emphasized which were not in the headings. In these two specific cases we will need to be flexible and note these occurrences. Any questions which remain unanswered can be used to begin discussion in a study group or tutorial or they can be the focus of a partial re-reading of the text. When we meet up with content which is not in the headings, we can adopt a very powerful thinking strategy to avoid confusion and frustration: as we meet with new content, we can assume that there is a question to which this material is the answer and we can ask ourselves “what is the question I need to ask to get this information as the answer?”

Now, some readers get bogged down in a reading and become frustrated to the point that they want to quit reading altogether. Sometimes this has to do with a weak background for the information of

a course. Sometimes, however, the reading itself is just plain difficult. Perhaps the ideas are quite manageable, but the text is written in such a way as presents a challenge to most undergraduate readers. Readings such as these include works from original source authors such as Plato, Aristotle, Kierkegaard, John Stuart Mill and many others. The passage which follows is one such passage:

On Liberty

John Stuart Mill, 1859

...The object of this Essay is to assert one very simple principle, as entitled to govern absolutely the dealings of society with the individual in the way of compulsion and control, whether the means used be physical force in the form of legal penalties or the moral coercion of public opinion. The principle is, that the sole end for which mankind are warranted, individually or collectively, in interfering with the liberty of action of any of their number, is self-protection. That the only purpose for which power can be rightfully exercised over any member of a civilized community, against his will, is to prevent harm to others. His own good, either physical or moral, is not a sufficient warrant. He cannot rightfully be compelled to do or forbear because it will be better for him to do so, because it will make him happier, because, in the opinions of others, to do so would be wise, or even right. There are good reasons for remonstrating with him, or reasoning with him, or persuading him, or entreating him, but not for compelling him, or visiting him with any evil, in case he do otherwise. To justify that, the conduct from which it is desired to deter him must be calculated to produce evil to some one else. The only part of the conduct of any one, for which he is amenable to society, is that which concerns others. In the part which merely concerns himself, his independence is, of right, absolute. Over himself, over his own body and mind, the individual is sovereign.

How did you find it? Difficult, eh? Maybe even dull? Take a look below at the way we have used the structures of the sentences to assist ourselves with reading this difficult piece. Notice that certain phrases have been crossed out to give a better sense of the flow of the main clause of the sentence? Notice what the first sentence says and how this idea is expanded upon through the rest of the paragraph? Using your knowledge of how sentences and paragraphs are constructed, or developing this knowledge, can be of great help in reading text which is written with great precision through long sentences. If you've ever said, "Why doesn't the author just come out and say what he means" this strategy will make a lot of sense for you to use. Once the passage starts to become clear to you, you may even find that your interest in the topic of the reading returns, making the reading more enjoyable. And, incidentally, authors write this way for a reason: the writing is meant to convey the thoughts of the author with precision. It may help to remember that you, your TA, and your Prof. will read this passage and expect to get something out of it. As you develop your sophistication with the issues involved, you will come to appreciate the depth and precision of what may seem, right now, wordy language.

On Liberty

John Stuart Mill, 1859

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d. making notes, highlighting, and summarizing

The Problem

As you proceed along through a reading, you may have developed strategies to identify, mark, and summarize information you find of importance. The most popular way of identifying or marking key information is to highlight the text or underline passages so that you can return to them later. In general, the process of marking the text so that you can return to important information is a very important one, and one I don't want to discourage you from doing. However, some students have made a fine science out of colouring their text in an attempt to avoid having to deal with the content. Have you ever seen (or been) one of those readers whose texts are marked by four different colours of highlights? These students proclaim that one colour is for main ideas, another colour for examples, another for details, and yet another for material they either don't understand or agree with. These are often the same students who highlight or underline such vast tracts of their texts that what stands out is actually what this student found was not important. The process of colouring the page can become quite a time trap. Often too, students highlight while they are reading. As soon as they notice they are reading something important, they will pull out the coloured pens and begin marking. It can get to the point where students have not actually even read and processed the material they are highlighting because of the promise to go back a look at this material later. Going back often doesn't happen because the volume of material highlighted makes students feel overwhelmed at the prospect of having to re-read huge portions of their material.

A Few Really Helpful Suggestions

A few really helpful suggestions can save you from this time trap. First, read an entire section between headings before highlighting. In this way you can see the development of the whole idea and maybe even encounter a point at which the author restates his or her points more concisely. Second, instead of underlining or highlighting across the page, make a vertical mark in the margin the length of the number of lines you want to make note of. This allows you to continue to read without as much interruption to your thinking on the material while still allowing you to capture those thoughts for later consideration. Third, using your own words to make a brief note of the idea or its importance or relevance to your reading purpose in the margin is usually superior to using the words of the author. Rephrasing ideas into your own words often forces you to think the idea through and process its meaning. In this way, your later reviews of the material are actual reviews, rather than the first real opportunity to understand the material.

Whether you make notes in the margin of the text or on separate paper, remember to try to be concise. The purpose of making notes on readings is to select and organize material for subsequent review. Try not to let yourself become overwhelmed by the mass of details you will encounter in some readings. Strive to select the important elements and organize them in a manner that makes sense to you. Your goal is to integrate and synthesize the information into a comprehensible and memorable whole.

e. after the reading is done: the final two Rs

The final two Rs in the SQ3R model stand for Recite and Review. These are typically thought of as “study” techniques more than “reading” techniques, but I want to emphasize that reading does not take place in a vacuum. **Reading, after all, is done as part of our process of learning.** For this reason, recitation and reviewing, these final two Rs, are two very important facets of our reading strategy.

You might remember the process of reciting from your early public school days when you had to recite a poem for the class or you had to recite multiplication tables aloud in class. Chances are that these things you’ve recited intensively remain with you as part of your base of knowledge. In fact, they have probably become such an integral part of your knowledge that you don’t even think of them as things you have to remember; instead, you just “know” them. This is what the purpose of recitation is in the process of reading too. It isn’t that I suggest you know everything inside and out, but doing a little of this kind of work helps to strengthen the learning you do at the time you first do it and assists you in determining how much more work you might need in order to feel confident about your ability to remember this material in an exam. Recitation can be done aloud or in written form. And, if you have prepared to read using questions as we’ve suggested above, you are ready to recite almost without effort. Reciting can be a little difficult, but once you are reciting your material with skill, you will be in terrific shape for an exam.

Reviewing literally means “see again”. This interpretation of the word review is very important because it suggests that you have worked with the material before. The purpose of review is two-fold. First, by reviewing you keep the ideas that you have encountered in your courses fresh in your mind. Regular review, which is ideally cumulative and regularly spaced throughout the term, keeps the many ideas of your course cycling through your mind. This assists you when it comes time to study because you don’t have to face the daunting task of looking over notes that no longer make sense or which are very remote from your thoughts. This takes time to adjust for -- usually more time in total than reviewing regularly would. Even so, it is a surprise that many students choose not review. The second purpose of review is to bring ideas into collision in such a way as fosters your thinking about how they are related. All the ideas in your course are related to the all the other ideas in some form or fashion. But often, the way in which we study separates these ideas and treats them as individual, unconnected thoughts. By regularly reviewing your material, you give yourself an opportunity to see how the ideas of your course fit together. As we will discuss in the next section on Critical Thinking, regular review also gives you an opportunity to think about what you think about the ideas in your course.

Section 4. Critical Thinking

Thinking as Asking

Critical thinking in reading is like critical thinking elsewhere. Its purpose is to get us involved in a dialogue with the ideas we hear in class so that we can summarize, analyze, hypothesize, and evaluate the ideas we encounter. The practice of critical thinking is probably not new to you, but you might be unsure of how to apply it to academic work in a strategic way. While there are a number of excellent resources on the topic of critical thinking, among them Jan Rehner’s *Practical Strategies for Critical Thinking* and Vincent Ruggiero’s *Becoming a Critical Thinker*, the most important thing to know about critical thinking is that it is, like reading is, a skill that can be developed and mastered with time and practice.

If you have used the strategy of discovering what organizational format your reading has used you are in a good place to start. If you have been practicing asking questions about the material you are reading, especially questions which analyze, hypothesize, or evaluate, then you are also in a very good position to think critically. And, if you have discovered some of the central ideas in the readings you have done, you can begin thinking critically. The key here is to remember that you already are doing some critical reading and that perhaps the most powerful thing you can do in furthering your abilities in this area is to become conscious in your application of a variety of questions to whatever you read. Even if you cannot always readily answer the questions you develop, you are beginning to think in a way which gets beyond there being just right and wrong answers, which gets beyond you memorizing answers to the questions somebody else makes up. In fact, you are engaging in the practice which is often one of the primary goals of a university education: you are practicing thinking.

But What Are the Questions?

So, if one of the best things you can do to develop your ability to think critically is to become conscious of applying a series of questions to whatever you read, then what are some of these questions? The expert answer is that the questions that are important to ask will become evident from the structure of the material you are reading. This, of course, prompts us to ask, “How do the materials provide the questions?” Well, we’ve already seen a basic form of this through our discussion of the Q step in SQ3R where we translate headings into questions to establish our purpose for reading. Earlier, too, we talked about how the reading we do can be described as belonging to one or more organizational forms such as description of a process, compare and contrast, and so on. If you have been able to tune into the way a reading is organized (and, therefore, into what is likely the author’s purpose), then developing questions is really not all that hard. It helps to have a list of possible questions that are applicable in a wide variety of circumstances to get yourself started. And, soon, you will develop specific questions for yourself either as a result of how you are interpreting the material or as a result of other questions you have asked.

While there are a limitless number of possible questions to ask, it is possible to categorize the questions you come up with into categories that represent the level of thinking the questions make you do. (King, 1992; Thorpe, 1992)

For example, the question **“What is SQ3R?”** asks for a definition for a specific term. The thinking you do to answer that question is summarizing or defining.

By contrast, the question **“What are the steps involved in the SQ3R reading strategy?”** asks you to analyze a concept and discuss its component parts. The thinking involved in answering this question is analysis.

If we were in class together, our professor might say **“What would happen if you applied SQ3R to your own course readings?”** The professor is asking us to think about things hypothetically, based on our present level of understanding. This kind of question is called a hypothesis question. The kind of thinking involved with answering it has to do with extending our existing knowledge in an attempt to figure out what might happen in a certain situation, real or fictitious.

Finally, we could (and might very well) ask **“How helpful is this strategy, anyway?”** This last question demands that we answer with an opinion or a judgement. It asks that we be critical (either supportive or not). To answer the question we may require more information than we presently have at hand, but the question requires that we perform evaluation.

The four levels of questions, then, summary/definition, analysis, hypothesis, and evaluation,

roughly capture the variety of questions that we can ask. The purpose of developing these categories is to give us a rough guide so that we can choose what questions to ask for the level of thinking that we want to do. Below are listed some example question frames in each of the question type categories. Question frames are questions with the concepts taken out of them. In place of the concepts are gaps for us to fill with the concepts we are immediately concerned with. In this way, questions frames become general and very portable, allowing you to apply them in a variety of contexts. For example, our evaluation question above (“How helpful is this strategy, anyway?”) looks like this in its general form: “How helpful is, anyway?” Get the idea?

Summary and Definition Questions

- what is (are)...?
- who...?
- when...?
- how much...?
- how many...?
- what is an example of...?

Analysis Questions

- how...?
- why...?
- what are the reasons for...?
- what the types of...?
- what are the functions of...?
- what is the process of...?
- what other examples of...?
- what are the causes/ results of...?
- what is the relationship between ...and ...?
- what is the similarity or difference between... and...?
- how does ...apply to ...?
- what is (are) the problems or conflicts or issues...?
- what are possible solutions/ resolutions to these problems or conflicts or issues...?
- what is the main argument or thesis of...?
- how is this argument developed...?
- what evidence or proof or support is offered...?
- what are other theories arguments from other authors...?

Hypothesis Questions

- if...occurs, then what happens...?
- if ...had happened, then what would be different...?
- what does theory x predict will happen...?

Evaluation Questions

- is...good or bad...?
-correct or incorrect...?
-effective or ineffective...?
-relevant or irrelevant...?
-clear or unclear...?
-logical or illogical...?
-applicable or not applicable...?
-proven or not proven...?
-ethical or unethical...?

- what are the advantages or disadvantages of...?
- what are the pros or cons of...?
- what is the best solution to the problem /conflict / issue...?
- what should or should not happen...?
- do I agree or disagree ...?
- what is my opinion...?
- what is my support for my opinion...?

It is important to stress that these questions should not simply be memorized. Instead, they should be learned gradually through application to your course work. Remember, too, that all these questions are not necessarily applicable in all situations calling for certain levels of thinking. These questions are provided as a guide to thinking critically. It is perhaps best to view these lists in the same way a carpenter views a tool box: all the necessary tools are in there, but I have to know which tool to use for which job.

As an example, return to our (rather difficult) passage from J. S. Mill's *On Liberty* or if you like, choose a reading you are doing for a course right now. As you read through the passage, see if you can apply a few of the questions from each list. You needn't be able to answer the question right now; just get a feel for how the question frames can be applied. Given that you are called upon to think critically --which really means to think at all these levels -- about those things you read and ideas you hear in lectures, it will be worth your while to learn how to ask questions at different levels of thinking. (And for situations where you know you've read the material but still don't get it, these questions can help you to articulate your difficulties in the form of in-class questions for discussion.)

On Liberty

John Stuart Mill, 1859

...The object of this Essay is to assert one very simple principle, as entitled to govern absolutely the dealings of society with the individual in the way of compulsion and control, whether the means used be physical force in the form of legal penalties or the moral coercion of public opinion.

The principle is, that the sole end for which mankind are warranted, individually or collectively, in interfering with the liberty of action of any of their number, is self-protection. That the only purpose for which power can be rightfully exercised over any member of a civilized community, against his will, is to prevent harm to others. His own good, either physical or moral, is not a sufficient warrant. He cannot rightfully be compelled to do or forbear because it will be better for him to do so, because it will make him happier, because, in the opinions of others, to do so would be wise, or even right. There are good reasons for remonstrating with him, or reasoning with him, or persuading him, or entreating him, but not for compelling him, or visiting him with any evil, in case he do otherwise. To justify that, the conduct from which it is desired to deter him must be calculated to produce evil to some one else. The only part of the conduct of any one, for which he is amenable to society, is that which concerns others. In the part which merely concerns himself, his independence is, of right, absolute. Over himself, over his own body and mind, the individual is sovereign.

Some example questions:

Summary/ Definition:

What is J. S. Mill basically saying here?

What is meant by “harm to others”?

What does “remonstrating” mean?

Analysis Questions:

Why does Mill say what he says?

How do Mill’s ideas relate to the time period he’s in?

What evidence or reasons does Mill use to support his ideas?

How do Mill’s views relate to those of his contemporaries?

How does On Liberty fit into the course at this point?

Hypothesis Questions:

How might Mill’s ideas be different if he were writing today?

What if we applied this to a discussion of suicide?

Evaluation Questions:

Do I agree with J. S. Mill?

Is Mill persuasive in his discussion of Liberty? Why?

What would be the advantages of adopting Mill’s views?

Applying a list of question frames to your work is really only the beginning of critical thinking.

As you progress through your major area(s) of study and become a more critical thinker, it will become easier to ask questions that are directly applicable to your work. This is partly the development of awareness about the kinds of question your professors will be asking and partly the development of awareness about your discipline and how students (and professors) in that discipline are trained to think.

5. Summary

Through “Reading University Level Materials” you have encountered a number of principles and strategies related to reading effectively at university. You have learned about the importance of reading actively through setting reading goals, developing a purpose for reading, using the Survey, Question, Read, Recite, Review (SQ3R) strategy, thinking critically and analytically about the notes and summaries you make from your various readings, and about reviewing and reciting in preparation for exams. As well, you have read about the intentional use of question frames which prompt you to read and think at a variety of levels, including: summary and definition, analysis, hypothesis, and critical judgement. Throughout, I have tried to underscore the importance of reading with a strategy that matches your purpose for reading, in a way that is “thinking intensive”, with the aim of assisting you in becoming an effective and efficient reader. Remember, no strategy can guarantee that readings will proceed without difficulty. As you continue to apply these new-found strategies, endeavour to remain flexible in your approach to reading and to always read with a view of improving your skills.

1. *Be an active reader.* Being an active reader means setting reading goals, having a personal purpose for reading, developing an understanding of the organization of the reading, reading selectively, reading to link key ideas to important details and with a view to connecting ideas to a context, and reading thoughtfully and critically.

2. *Use a strategy.* We have discussed the SQ3R strategy which stands for Survey, Question, Read, Recite, Review. If you choose not to subscribe to any particular strategy, use the principles that underlie them: previewing for an overview, questioning, summarizing, recording ideas in key word form, reciting ideas, reflecting about what was read, reviewing learning regularly.

3. *Skimming and scanning processes have specialized applications for reading.* The process of skimming is helpful for establishing general awareness about the contents of a specific reading. Skimming the structural elements of a reading (headings, sub-headings, topic sentences etc.) is a common way to preview a reading. The process of scanning is used to identify the organization of a reading and then to locate specific information quickly and accurately. Finding a number in a phone book is an example of scanning.

4. *Record the ideas you find important in your readings and reflect on and review these regularly.*

Taking notes provides us with a fairly permanent, abbreviated record to return to so that we can continue to process and think about the ideas we have read. Reviewing these notes regularly helps

to keep us thinking and helps support our memory of the knowledge we have encountered.

5. Apply questions to what you read. Reading is a tool of thinking. Questioning at various levels moves you to thinking at those various levels. When we ask only the most basic questions, we think only the most basic thoughts. When we question at deeper levels, we think more deeply. The four levels of questions that we discussed were (1) summarizing/definition/fact questions; (2) analysis/interpretation questions; (3) hypothesis questions; (4) critical analysis/evaluation/opinion questions.