

Learning Critical Thinking Skills as a University Student

Critical thinking in reading, writing, and research as a university student is crucial. But emerging from high school, or even as a long-time university student, these skills can be difficult to learn without much practice.

What is critical thinking and why is it so difficult?

Critical thinking is the process of using purposeful and self-regulatory judgement and thinking (Walker 2003) to analyze information. This type of thinking is crucial in university, and requires self-awareness in thought and analysis.

Prior to university, the way information was delivered tended to be very clear cut. Essential information was usually presented directly to students, and because of this ease, there's no need to think critically if all necessary information is easily given. University changes this, as course information is delivered through dense lectures and readings with the expectation that we should know how to differentiate what's truly necessary. In order to do this, we must develop critical thinking skills.

How can we develop critical thinking skills?

In the classroom – Socratic Questioning

Socratic questioning refers to questioning that explores the meaning of a “claim, position, or line of reasoning” (Walker 2003). A key feature in Socratic questioning is the continual asking of questions for the sake of investigation. The point isn't to seek the answers to these questions, but to critically use learned facts and knowledge to make your case.

While typically in classes you'll find that there are set answers, the Socratic method helps flesh out your ability to understand *why* these answers come to be. Through this, the Socratic method aids in clarifying current ideas.

Incorporating it into your studying - Bloom's Taxonomy

Bloom's taxonomy is a helpful reading and study strategy that ensures thorough understanding of course content, leading to the ability to think critically about given material. It is divided into six sections:

1. Remember – Recalling facts
 - a. This is the base level of learning, and something we're familiar with from much earlier on in education. It involves memorization, and while it's necessary for learning and testing, it on its own is not enough for true understanding.
2. Understand – Comprehending information
 - a. This involves actually understanding given information as opposed to simple memorization and regurgitation. To complete this step, take the time to thoroughly read and take notes on your readings, rewrite in your own words, and ask questions for further clarification.
3. Apply – Apply to new problem, task, or situation
 - a. Once you've remembered and understood course content, apply the knowledge to problem-solving and questions. This could be questions given within the course (textbooks, exam repositories), or questions you create for yourself through possible questions made in the “understand” phase.

These first three steps fall under **Shallow Learning**. This is typically the type of learning we're used to in high school, and while we're not usually tested on solely this knowledge in university, they are the most basic and foundational levels of learning required for the next three steps, falling under **Deep Learning**.

4. Analyze – Examine and analyze parts
 - a. This is done through re-reading previous notes from readings and lectures and explaining concepts in your own words. Try to break concepts down to understand why things happen, and based on your understanding, try to imagine different applications of concepts.
5. Evaluate
 - a. Evaluating involves using criteria to judge or critique given material. This criteria can be adapted from what's given in class, but since it's unlikely you'll be given a specific criterion, developing this involves noticing patterns of critical topics in the material and applying that accordingly.
6. Create – Use creativity, originality and synthesis
 - a. Creating involves creating "what if?" scenarios based on your analysis of material, combining it with additional material within or outside of the course, and creating potential questions similar to what may appear on the exam (use the exam repository to do this!)

Critical Reading

In university, many courses involve dense textbooks and readings required for future assessments – a difficult task for students when it's difficult to differentiate what information is truly necessary. **Critical reading** involves being an *active reader*. This doesn't mean skimming readings or rewriting what's been taught exactly as it's been said, but dividing up tasks for different re-readings.

1. First reading - Before the lecture

This is your first encounter with the text. Depending on class requirements, this could be before and/or after the lecture. For best understanding, aim to do both. In this first reading, use the **SQ5R Reading System**, adapted from the 2015 *Essential Study Skills* textbook.

Before the lecture, first skim the reading to get a general idea of what you're about to read. Examine the chapter and subheading titles to gain a better understanding, and create possible questions based on these titles.

Once you've primed your brain for learning, you can begin your reading! Don't rush or overwhelm yourself and break the text into smaller sections. Don't feel pressured to create formal notes in your first reading, as you're not quite yet sure of what'll be necessary in the course, but it's helpful to your understanding if you highlight crucial concepts and definitions, and create notes in the margins for confusing passages, or even extra notes you believe will aid your understanding!

Reading before the lecture will likely be difficult without the professor's explanation and help in the lecture. But reading at this time helps improve your critical thinking – when you encounter difficult concepts alone, take the time to understand where this confusion is coming from.

- Is the text confusing? Try rewording it in a way that makes it easier to understand.
- Is it too complex? Find helpful online sites and videos that do a good job of explaining the concepts.
- Still too difficult? Take note of the questions you have to bring with you to the lecture. The professor's clarification may make the reading easier to understand, and if not, you are able to ask!

Once you've completed your first reading, you're ready for your lecture!

2. Second reading – after the lecture

It's helpful to re-read readings multiple times (2 – 3, though you can increase) regardless of whether you choose to read before or after the lecture. Once you've had your initial reading contextualized by lecture content, it's time to create proper notes.

Due to the dense content in readings, critical reading skills are necessary to understand what information is crucial. Stay alert for repeated and common concepts and ideas in both readings and lectures in order to discern what's truly necessary.

Create individual notes and outlines that summarize information from readings *in your own words*. In creating these notes, create study questions using Bloom's taxonomy.

Further clarification on critical reading is helpfully illustrated through University of Toronto's Deborah Knott at the New College Writing Centre.

Download the PDF [here](#).

Critical thinking outside of the classroom

Practice critical thinking all the time! School material is not enough – to build critical thinking skills apply it to the world around you. A helpful book recommendation is Daniel J. Levitin's *A Field guide to lies: Critical Thinking in the Information Age*.

Helpful Resources:

- Duncan, Jennifer. The Writing Centre, University of Toronto Scarborough. Modified by Michael O'Connor. <https://www.utsc.utoronto.ca/twc/sites/utsc.utoronto.ca.twc/files/resource-files/CriticalReading.pdf>
- Karland, Dan. <http://www.criticalreading.com/>
- Wheeler, Dr.L.Kip. "Critical Reading of an Essay's Argument." Dr. Wheeler's Website. 12 Oct. 2004. http://web.cn.edu/kwheeler/reading_basic.html References:
- Walker S. E. (2003). Active learning strategies to promote critical thinking. *Journal of athletic training*, 38(3), 263–267.
- Wong, L. (2015). *Essential Study Skills: Eighth Edition*. Houghton Mifflin Company.