



VIC171: Methodology, Theory and Practice in the Natural Sciences

Research Seminar

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Major Research Resources

- VIC171 Research Guide:
<http://uoft.me/vic171>
- Best Research Resources in History and Philosophy of Science:
<http://uoft.me/hps>
- Research and Writing Workshops:
<http://uoft.me/vicworkshops>.

University Research Basics

Critical reading begins at the research process:

- i.e. when you start to gather the sources that you will use to contribute your own ideas in writing
- learning not only how to navigate, but also to select the **best** sources in the "information universe" is an essential academic skill
- knowing the starting points of research—where to find the best, the most relevant, and the most useful materials for your paper is part of doing research critically.

What Are Some of the Challenges You Encounter When You Start to Research Your Topic?

What is an “Academic” Publication?

Group Exercise #1: Demarcation

- 1) In groups of two (or more) read the assignment description.
- 2) Identify the topic of the assignment.
- 3) Identify the research requirements—what types of sources are you required to incorporate in your essay?
- 4) Using the University of Toronto Libraries web site (<https://onereach.library.utoronto.ca/>), located at least one academic publication.

Sample Essay Topic: The Demarcation Problem

One of the problems that we have tackled in this course is the demarcation problem.

Having made your way through the readings, do you think that there is any hope for a criterion that will enable us to draw a line between science and other kinds of endeavours?

Or, is this problem a non-starter from the beginning?

High School vs. University Research

- as a member of the academic community, you are not only required to be familiar with the topic and what has been published on it
- you are also required to identify a **specific issue**, contribute **intellectual analysis**, and by extent, **advance knowledge** within the discipline
- your arguments should answer the questions raised in the assignment description and be informed by the best sources that you can find.

Stanford Encyclopedia of Philosophy

- reference sources contain entries which provide an overview of a topic
- designed to provide background reading for your own development of a topic
- provide such introductory information as definitions, major works and scholars who study the topic, the importance of studying a particular issue or idea, and a works cited list.

What is a “Peer Reviewed” Journal Article?

- the **peer review process** means that manuscripts are evaluated by other scholars in the field in order to determine whether they are worthy of being published
- search *Ulrichs Web* to determine whether a journal is academic and/or peer-reviewed.

Identifying the Best Sources

- Currency and Relevance
- Authority
- Accuracy
- Documentation.

Group Exercise #2: Identifying the Best Sources

- 1) Identify the type of publication (book, peer-reviewed academic journal article, magazine article).
- 2) Using the four evaluation criteria, explain whether you would (or would not) cite the publication in your essay (the sample topic is “defining the criteria for demarcation or the differences between science and non-science”).