Craft of Research
Chapter 4
From Questions to Problems
Instructor: F. Quek
2/3/16

From Questions to Problems - Overview

What are Problems?
Why do you need one?
Practical vs research problems
What's the difference between them?
The Common Structure of Problems
Conditions and costs framework
How does framework apply to practical problems?
How does framework apply to research problems?
What is the distinction between pure and applied research?
How to connect research problem to practical consequences?

Finding a Good Research Problem
What is the role of your community/network?
What is the role of reading?
Do your claims and problem statements match?
The Problem of the Problem
How do you know if you have a good problem?

What are Problems?
Why do you need one?
Practical vs research problems
How may practical problems suggest research problems?
What's the difference between a practical problem and a conceptual problem?

N.B. Ed 3 clarifies the "research problem" language by calling the latter a conceptual problem
The Common Structure of Problems

Conditions and costs or consequences framework

How does framework apply to practical problems?

Give some examples from your own study domain

How does framework apply to research/conceptual problems?

What is the condition of a research/conceptual problem?

What is the role of the consequence of a research/conceptual problem?

Why may it be useful to ‘reverse’ the consequence to the negative?

Why may you want to pose a second question & how is this related to the first one (see p. 63 bottom)?

What is the distinction between pure and applied research?

How to connect research problem to practical consequences?

Pure and Applied Research

Relate these structures to your own research (state one for yourself)

Topic: I am studying the density of light and other electromagnetic radiation in a small section of the universe

Question: because I want to find out how many stars are in the sky

Significance: in order to help readers understand whether the universe will expand forever or contract into a new big bang

Topic: I am studying the difference between readings from the Hubble telescope in orbit above the atmosphere and the readings for the same stars in earthbound telescopes.

Question: because I want to find out how much the atmosphere distorts measurements of light and other electromagnetic radiation

Practical Significance: so that astronomers can use data from earthbound telescopes to measure more accurately the density of electromagnetic radiation

Connecting Research Problems to Practical Consequences

Relate these structures to your own research (state one for yourself)

Topic: Topic: I am studying the differences among various nineteenth-century versions of the story of the Alamo

Conceptual Question: because I want to find out how politicians used stories of great events to shape public opinion.

Potential Practical Significance: in order to help readers protect themselves from unscrupulous politicians.

Topic: Topic: I am studying the differences among various nineteenth-century versions of the story of the Alamo

Conceptual Question: because I want to find out how politicians used stories of great events to shape public opinion.

Conceptual Significance: in order to help readers understand how politicians use elements of popular culture to advance their political goals.

Potential Practical Significance: in order to help readers protect themselves from unscrupulous politicians.

Philosophical premise: What is the role of the pursuit of knowledge ‘for its own sake’?
Finding a Good Research Problem

What is the role of your community/network?
What is the role of reading?
Do your claims and problem statement match?

The Problem of the Problem

How do you know the problem you have is a good one?

How do you know if it is a problem you can solve?

What is the role of your reader's (customer's/research consumer's) interest?

How may you convince your reader of the importance of a problem?