

DEVELOPING AN OVERALL RESEARCH STRATEGY

– An Outline –

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I. Introduction

II. Five Basic Steps of a Research Project

A. Conceiving and Formulating the Research Question:

The most important step and most relevant to developing an overall research strategy. Series of projects may progress from *DESCRIPTIVE* to *ANALYTICAL* to *EXPERIMENTAL*.

B. Implementing the Research Project:

The most creative step and the most difficult, because your dreams collide with reality! Study design often requires difficult trade-offs in order to accomplish a study within logistical or financial constraints. For individual studies and for an overall research strategy, think about ways you can “deal from strength” and stick to areas where you have a natural advantage.

C. Data Collection:

What data do you want?
What data do you need?
What data can you get?

D. Data Analysis:

Think about this in detail *BEFORE* you collect any data!

E. Paper Writing:

It is never too early to start writing, nor to imagine who will be interested in reading it when your project is completed.

III. Make your Project FINER — Criteria for a good research question

Feasible

Adequate number of subjects
Adequate technical expertise
Affordable in time and money
Manageable in scope

Interesting (at a minimum, to the investigator)

Novel

Confirms or refutes previous findings

Extends previous findings
Provides new findings

Ethical

Relevant

To scientific knowledge
Advances the field
To future research directions

IV. Assorted General Hints for Research

- A. Fight grandiose thinking: Simple questions are the best.
- B. Make sure you can get the project done – “The secret to success is realistic expectations.”
- C. Select projects that will be interesting regardless of the results.
- D. Answer the “So what?” question.
- E. “Have a lot of questions and throw out the bad ones” – Keep a list of interesting questions – think quantity, not quality (Linus Pauling).
- F. Critical review can be ego-bruising. Use critical review of your research ideas to find alternative “**FINER**” questions similar to your own.
- G. Remember that in study design, every choice you make is a compromise.
- H. Make use of the telephone and the “invisible college” to locate cores of expertise – even senior investigators enjoy talking to someone who finds their work fascinating.

V. The Importance of Unfunded Research – often the key to early success for junior investigators.

- A. Limited-scope projects will help build a track record.
- B. Volunteers are frequently available among students, colleagues, and other potential collaborators.
- C. Apprenticeship to a senior investigator.
- D. Write – always possible without research funding.
- E. Look for data already collected, or to ongoing projects on which you can “piggyback” your project. Collaborate.