ESP 178 Applied Research Methods

Research Proposal Stage 1: Research Question

Due: 1/19
Length: 1 double-spaced page
Grade: 5% of total course grade

Note: Be prepared to talk about possible topics for your proposals during discussion section on 1/14 and during meetings with me on 1/15.

Purpose: Get started on the research proposal by finding a topic for your research proposal, developing a research question, putting together a rationale for that question, and proposing a conceptual model.

Task 1. Pick a Topic
Within the bounds of the call for proposals, think about an environmental issue that interests you, something that you’ve pondered, something that has concerned you. If nothing comes to mind, try browsing the newspaper or looking around the web. A few potentially helpful sites:

- Environmental Issues News from ScienceDaily

- Priority Issues from the Natural Resources Defense Council (NRDC)
  http://www.nrdc.org/issues/

- Resources on all kinds of environmental issues, from Envirolink.org
  http://www.envirolink.org/

Task 2. Develop Your Research Question
Once you have a topic, coming up with a question that is both researchable and worth investigating may be the most challenging part of the research design process. Although the research question is an obvious starting point in designing a research project, the process is not always so linear, and the research question may evolve as the researchers move on to subsequent steps of the process. For this assignment, you must develop a research question that you propose to use as the basis for your final proposal. In subsequent stages, you will have a chance to revise your research question. Note that the assignments build on each other; the more thought you put into this first assignment, the easier will be the remaining assignments.

Think through what you learned in the readings and in lecture about what makes for a researchable question. Rather than “should” questions, focus on “how” and “why” and “what” kinds of questions. Your question must be a social science question, focusing on human behavior in some way. You probably want to focus on an explanatory question, in which you seek the explanation for the behavior of interest. Some generic question structures that will work for this assignment: “What factors influence [fill in the blank] behavior?” “Why do some people [do something] and others don’t?” “How does [some factor] impact [some behavior]?”
Your dependent variable – the effect, the outcome – must be something that people do (i.e. behavior) or something that people think (i.e. attitudes, perceptions, knowledge, concern, etc.)

Task 3. Background Research
An important step in the development of the proposal is to do some background research on the topic you've chosen. The purpose of this background research, besides learning more about the topic yourself, is to provide concrete evidence that helps to describe the problem and its significance – and convince the funding organization that this problem deserves their attention. Compare the effectiveness of the following statements:

“Lots of people live in areas where they are forced to breathe dirty air.”
vs.
“Thirty-six metropolitan regions in the U.S. that are home to 85 million people fail to meet the national standards for ozone.”

“Transportation consumes lots of oil and contributes to global warming.”
vs.
“In 2000, the transportation sector in the U.S. contributed 513 million metric tons of CO₂ and accounted for 18% of global oil consumption.”

In your background research, you should look for data and other specific information that makes your problem description more compelling. Look for two or three reliable sources. I generally turn to government data to illustrate a problem, but newspapers and credible blogs can also be useful. Be sure to assess the quality of your sources, as discussed below.

A few words about web searches. Web searches are a good way to find background information on your topic, but you have to use this tool carefully. Not all information on the web is to be trusted! Use the following questions in evaluating what you find on the web:

- Who or what is the author of the website?
- Is the site advocating a particular point of view?
- Does the web site give accurate and complete references?
- Are the data up-to-date?
- Are the data official?
- Is it a university research site? A government agency site?
- Do the data seem consistent with data from other sites?

Task 4. Write an Introductory Paragraph
Now write one paragraph (about ½ page) that uses your background research to describe the problem you wish to address with your research and provides a rational for your research question. You must provide enough background on the topic to show why this might be an interesting question so that at the end of your paragraph, a reader does not say, “So what?” In other words, provide the motivation for this research – not your personal motivation but the societal motivation. Remember that your
audience is not me – it’s someone who could potentially fund your research. You should not say “I want to know” or “I want to study.”

Be sure that your paragraph has a clear logic flow. Try outlining your points and think about the logical flow from one point to the next before you start writing. A possible logic flow might look like this:

1. Driving has lots of negative impacts on the environment.
2. Bicycling, in contrast, is good for the environment and good for health.
3. The world would be better off if we could get people to bicycle rather than drive.
4. To figure out how to get people to bicycle more, we need to understand the factors that influence the decision to bicycle or not.
5. So what factors influence the decision to bicycle?

The paragraph should flow logically to your research question and it should end with your research question, in one sentence, complete with question mark. The paragraph should include numbers and specific examples, with citations, to support your assertions (e.g. driving has negative impacts on the environment – what kinds of impacts, of what magnitude?).

A few words about citations. Citation format is getting more complicated as more materials become available on-line. The author-date format is used most widely in planning journals (i.e. (author year) in the text, with a list of references at the end of the paper) but other formats are acceptable if used correctly and consistently. My general rule of thumb is that you need to provide enough information that the reader could find the item herself. For things like government reports, this includes the agency, the report number, the date, and, if possible, a phone number or email address for the agency. I suggest using the Chicago, APA, or MLA manuals of style, available through the library (http://guides.lib.ucdavis.edu/citations).

Task 5. Present Your Conceptual Model
In the second paragraph of your write-up, try turning your research question into a testable hypothesis: X is positively/negatively related to Y, or X causes Y, for example. State what the dependent variable is and what the independent variable is. Say a few words about how you might measure the dependent variable (e.g. “bicycling” could be measured as “number of days bicycled in the last 7 days” (a ratio variable) or “bicycled or not in the last 7 days” (a nominal variable)). List other independent variables that might also affect the dependent variable (what we call “control variables”). Draw a simple diagram of your hypothesis – a “conceptual model” – complete with independent variable, dependent variable, and control variables.

You must turn in a diagram!

Next up: Literature Review