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Fall 9-1-2005

### PSC 502.01: MPA Research Methods

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PSC 502  
**MPA Research Methods**  
Fall 2005

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### **Course Description**

This course covers the essential ingredients for designing and carrying out both academic and applied research. These ingredients include defining the research problem, formulating hypotheses or research questions, operationalizing key concepts or variables, and choosing appropriate methods for gathering and analyzing data.

### **Course Objectives**

1. To understand the scientific method as a distinct way of "knowing reality."
2. To learn to distinguish social science (academic) research from applied research.
3. To develop skill in writing research designs.

A specific goal of this course is to encourage and enable students in the MPA program to complete their required applied project (PSC 597).

### **Required Text**

Chava Frankfort-Nachmias and David Nachmias, **Research Methods in the Social Sciences** (New York: St. Martins).

### **Course Requirements**

Students are required to read all assigned readings, participate in class discussions, take one exam, and write two research designs (one social science and one applied). Annotated bibliographies are worth 10 points each, draft sections of the designs are worth 20 points each, and the final research designs and exam are worth 100 points each.

A = 391-420	B+ = 365-377	C+ = 323-335
A- = 378-390	B = 349-364	C = 307-321
	B- = 336-348	C- = 281-306

### **Weekly Assignments**

Wed., Sept. 7                      The Scientific Method

Read Chapter 1 (pp. 2-7 and 18-19), Chapter 2 (pp. 24-31), and Paul Trout's article "What Students Want." Submit Assignment #1.

## **Design #1: Social Science Research Design -- The Situation**

As a long-time college instructor, you have noticed that the grades of the students in your Freshman American Government course have consistently declined over the years (despite grade inflation). And, as a social scientist, you have decided to conduct research investigating the cause(s) of variations in student performance levels. Your thinking is initially informed by an article by Paul Trout, but you do additional reading to investigate this problem. Because of time and financial constraints, you have decided to investigate the problem by surveying students in a Freshman-level course.

After reviewing the available literature, you begin the task of drafting your research design (proposal). It is roughly 7-10 pages in length (double-spaced) and is comprised of three sections: 1) Problem Statement; 2) Research Hypotheses; 3) Research Methodology.

To get an idea of the style and format of such a design, see Melissa Wangler's "The Effects of Voter Registration Method and Levels of Voter Alienation on Levels of Voter Turnout," on hard copy and electronic reserve in the Library.

**Assignment #1 (10 points):** Write a two-page annotated bibliography with 3-5 entries summarizing research studies or findings relating to your dependent variable, which is presumably something like "student underperformance". In practice, you would read everything available on this subject before beginning the research design process, but time does not allow this here; 3-5 entries will have to suffice. Paul Trout's article can be one of your entries.

Wed., Sept. 14

### Moving from the Conceptual Level to the Empirical Level

Read Chapter 3 and submit writing assignment #2.

**Assignment #2 (10 points):** Write a two-page annotated bibliography with 3-5 entries summarizing research studies or findings relating to the one or two independent variables that your research team has agreed to study. These entries should focus on the effects (or hypothesized effects) of your independent variable(s) on your dependent variable. In practice, you would read everything available on this relationship, but time does not allow this here; 3-5 entries will have to suffice.

Wed., Sept. 21

### Research Ethics and Institutional Review

Read Chapter 4 and complete sections 1, 2, and 6 of the Online Research Ethics Course as follows: 1) Go to the University's Institutional Review Board (IRB) page at [www.umt.edu/research/irb.htm](http://www.umt.edu/research/irb.htm). 2) Click on the link to "Online Research Ethics Course." 3) Complete sections 1, 2, and 6 and, at the end of each section, take the assessment quiz and print up the certificate.

Wed., Sept 28

Operationalizing Variables

Read Kraft and Clary's article "Citizen Participation and the NIMBY Syndrome," paying careful attention to how the research problem was conceptualized and how the variables were operationalized (defined for purposes of measurement). Submit Assignment #3 by email attachment by today.

**Assignment #3 (20 points):** Submit the first section of your research design by email attachment, i.e., the Research Problem section.

Wed., Oct. 5

Types of Research Designs

Read Chapters 5 and 6 and submit Assignment #4.

**Assignment #4 (20 points):** Submit the second section of your research design, i.e., the Research Hypotheses Section. Also include a rewrite of the Problem Statement, assuming you received timely feedback from Professor Tompkins.

Wed., Oct 12

Measurement and Sampling

Read Chapter 7 (pp. 138-49) and Chapter 8.

Wed., Oct 19

Survey Research and Questionnaire Construction

Read Chapters 10 and 11, and pp. 420-424, and submit Writing Assignment #5 by **Monday, Oct. 24**.

**Assignment #5 (20 points):** Submit the third section of your research design by email attachment, i.e., the Research Methodology section, along with rewrites of the first two sections. Ideally, your survey instrument will be appended.

Wed., Oct. 26

Other Data Collection Methods

Skim Chapters 9, 12, and 13 and read Chapter 14.

Wed., Nov. 2

Data Analysis

Take a look at Appendix A to familiarize yourself with SPSS and then meet in the Social Science Research Lab at 4:10 pm (Social Science Building 254).

Wed., Nov. 9

Introduction to Applied Research

Submit your Take-Home Exam today. Begin work on Research Design #2

**Research Design #2: Applied Research:** You are a manager, program administrator, or administrative assistant in a government or nonprofit agency who has identified a problem that is undermining or threatening to undermine the performance and success of your agency, or who has identified an opportunity for improving organizational performance. You decide to address the problem or seize the opportunity by conducting research and generating appropriate conclusions and/or recommendations. Accordingly, you write a research design of approximately 5 pages in length. You then get it approved by your boss (me) and proceed to carry out the proposed research and write up the report as required to obtain your MPA degree.

Wed., Nov. 16      Continue Work on Applied Research Projects

**Submit Final Draft of Design #1 today.**

Wed., Nov. 23      **\*\*Thanksgiving Holiday\*\***

Wed., Nov. 30      Continue Work on Applied Research Projects

Wed., Dec. 7      **\*\*Submit Draft of Applied Design Today\*\***

Wed., Dec. 12      **\*\*Applied Research Design due**

**Take-Home Exam Questions (due Wednesday, Nov. 9)**

1. **The scientific method.** Explain what is unique about the scientific method as a way of acquiring knowledge, i.e., how it is unique in terms of assumptions and methodology, and offer your assessment of both its value and its limitations.
2. **Moving from conceptualization to measurement.** You have decided to study loneliness among senior citizens using a survey methodology. Explain the steps you will go through in moving from the conceptual level to the empirical level, i.e., the level at which something can be counted.
3. **Sampling and generalizing.** You have decided to study loneliness among senior citizens using a survey methodology. Define your research population (i.e., give an example of a research population statement), identify the sampling frame you will use and possible problems with it, and c) explain how you can study some subset of the research population (i.e., a sample) and still be able to generalize the results of the study to the research population as a whole.
4. **The classic experiment.** You wish to determine whether a training program improves the skills of employees using an experimental design. Explain the logic of experimentation and describe how you might conduct an experiment in this instance. In the process, define internal validity, identify some of the intrinsic and extrinsic factors that may threaten validity, and explain how the features of the classic experimental design (e.g., pretesting, control groups) allow you to safeguard it.

## Score Sheet for Evaluating Social Science Research Designs

A research design describes the steps that will be taken in completing a research project. Its purpose is to guide the researcher in collecting, analyzing, and interpreting data. It should contain the three major components identified below.

Each item below will be scored on a five point scale, with 5 being "excellent" and 1 being "poor."

### I. Problem Statement

\_\_\_\_\_ 1. The design presents a clear, concise overview of the problem to be addressed by the proposed research.

\_\_\_\_\_ 2. The design presents a clear statement of the purpose(s) of the proposed research.

\_\_\_\_\_ 3. The significance of the research problem is clearly established with reference to one or more of the following:

a) results will help policymakers address a societal or organizational problem that holds serious consequences;

b) results will help fill a significant research gap, i.e., a gap in our substantive knowledge.

c) results will help build theoretical knowledge regarding the relationships among important variables.

d) results will clarify problems in ways that will facilitate further research and exploration.

\_\_\_\_\_ 4. The research literature is cited, where appropriate, to demonstrate the relationship of the proposed research to the previous research and/or to place the proposed research in the context of a larger theoretical framework.

### II. Research Hypotheses

\_\_\_\_\_ 5. Hypotheses to be tested are clearly stated and their rationales clearly explained.

\_\_\_\_\_ 6. The proposed research is limited in scope to goals that can be achieved realistically.

\_\_\_\_\_ 7. Independent and dependent variables are identified and the hypothesized relationship between them is described and/or illustrated with a causal model.

\_\_\_\_\_ 8. Variables are operationally defined in a way that allows for their accurate measurement.

### III. Research Methodology

\_\_\_\_\_ 9. The research population (and sample population where appropriate) is defined and the method of collecting data is clearly explained.

\_\_\_\_\_ 10. Data collection methods are appropriate to stated research objectives.

\_\_\_\_\_ 11. Methods for analyzing the data and presenting results are clearly explained and are appropriate to testing research hypotheses.

\_\_\_\_\_ 12. Limitations of the methodology and/or potential threats to validity are identified and discussed.

### IV. Other

\_\_\_\_\_ 13. Design is well written and carefully edited.

\_\_\_\_\_ 14. Design utilizes appropriate reference and bibliographic style.

Comments: