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PSC 595.01: MPA Research Methods

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PSC 595
MPA Research Methods
Spring 2004

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Course Description

This course covers the essential ingredients for successfully designing and carrying out social science and applied research. These ingredients include defining the 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 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 research project, ideally this Spring and Summer.

Required Text

Chava Frankfort-Nachmias and David Nachmias, Research Methods in the Social Sciences (New York: St Martins, 2000).

This book can be ordered through the UM Bookstore and mailed to you for an additional \$6 (www.umbkbookstore.com or call 406-243-1234).

Course Requirements

Lessons must be completed each Monday by roughly midnight.

Students are required to read all assigned readings, participate on the discussion board, take one exam, and write three research designs.

Course Grading

Design 1, Problem Statement and Hypotheses Sections (20 points)

Design 1, Methodology Section (20 points)

Design 1, Final Draft (100 points)

Take-Home Exam (100 points)

Design 2 (100 points)

Design 3 (100 points)

A = 396-440 points; B = 352-395 points; C= 308-351 points

Weekly Assignments

Lesson 1 (Due Feb. 2)

The Scientific Method

Read the mini-lecture on-line, read Chapter 1 of the textbook and Paul Trout's article "What Students Want" (on electronic reserve), and respond to the questions posed on the Discussion Board.

Lesson 2 (Due Feb. 9)

Conceptualizing a Research Problem

Read the mini-lecture on-line, read Chapter 2 of the textbook, and respond to the questions posed on the Discussion Board.

Lesson 3 (Due Feb. 16)

Identifying Variables and Developing Hypotheses

Read the mini-lecture on-line, read Chapter 3 of the textbook, and respond to the questions posed on the Discussion Board.

Lesson 4 (Due Feb. 23)

Operationalizing Variables: Constructs and Indicators

Read the mini-lecture on-line, read the article by Kraft and Clary on electronic reserve (paying careful attention to how the research problem was conceptualized and the variables operationalized), and respond to the questions posed on the Discussion Board.

Due March 1: The Problem Statement and Hypotheses Sections of Design #1 (via email attach.)

Lesson 5 (Due March 8)

Types of Research Designs

Read the mini-lecture on-line, read Chapters 5 and 6 in the textbook, and respond to the questions posed on the Discussion Board.

Lesson 6 (Due March 15) Measurement and Sampling

Read the mini-lecture on-line, read Chapters 7 and 8, and respond to the questions posed on the Discussion Board.

Lesson 7 (Due March 22) Survey Research and Questionnaire Construction

Read the mini-lecture on-line, read Chapters 10 and 11, and respond to the questions posed on the Discussion Board.

Due March 29: Draft of Design 1 (rewrite of first two sections, plus methodology section and questionnaire).

Lesson 8 (Due April 5) Other Data Collection Methods

Read the mini-lecture on-line, skim chapters 9, 12, and 13, and respond to the questions posed on the Discussion Board.

Lesson 9 (Due April 12) Data Analysis

Read the mini-lecture on-line, read Chapter 14, respond to the questions posed on the Discussion Board, submit a coding sheet for Design #1 by email attachment, and submit final draft of Design #1.

Due April 19: Take-Home Exam

Lesson 10 (Due April 26) Applied Research ****Design #2 due today 4/26 by email****

Read mini-lecture, and write and submit Design #2.

Lesson 11 (Due May 3) Design #3 - Political Science 597

Read mini-lecture, and write and submit Design #3 by May 10.

Writing Assignments

Design #1: Social Science Research Design

Many educators and policy analysts believe that college students are not performing as well as they could or should academically. You are a social scientist and have decided to conduct research investigating the causes of variations in student performance levels. Your thinking is initially informed by an article by Trout, but you do additional reading to investigate this problem. Because of time and monetary constraints, you have decided to investigate the problem

by surveying students in Freshman-level courses at the university where you are employed.

After reviewing the available literature, you begin the task of drafting your research design. It is roughly 8-10 pages in length (double-spaced) and is comprised of three sections: 1) Problem Statement; 2) Research Hypotheses; 3) Research Methodology.

Design #2: Applied Research Design

You are a university administrator who has heard complaints from many faculty members that students are not performing as well as they could or should academically. Concerned about the effects of this on retention rates, the reputation of the university, and the effectiveness of student instruction in general, you decide to investigate the problem by asking students in Freshman-level courses whether they are performing at a high level and, if not, why.

This design for applied research is very similar to the social science design you just completed except that it is written from an institutional perspective, poses research questions rather than research hypotheses, relies on descriptive statistics rather than coefficients of correlation, and seeks in the end to generate recommendations for improved student learning. Your design is approximately 5 pages in length (double-spaced).

Design #3: Applied Research Design for PSC 597

You are a manager or some type of analyst in a government or nonprofit agency who has identified a problem that is undermining or threatening to undermine the performance and success of the agency. You decide to resolve the problem by conducting research and generating appropriate conclusions and/or recommendations. Accordingly, you write a research design of approximately 5 pages in length. Ideally, you also 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.

Take-Home Exam Questions

Write on all of the following questions. If you remain on point and offer tight analysis, you should be able to address each question in 2 pages or less (double spaced). Write full and complete essays (introduction, body, conclusion); put each question in context, define key concepts, explain key points, and provide examples where appropriate. Although this is an open-book take-home exam, be sure to respond to the questions in your own words.

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. 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 explain how you can study some subset of the population (i.e., your 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 internal 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 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 and concise statement 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 policy makers 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 of the subject.
- 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 conceptually and 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 objectives.

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

_____ 12. Limitations of the methodology and/or potential threats to validity are identified and assessed.

IV. Other

_____ 13. Design is well written and carefully edited.

_____ 14. Design utilizes appropriate reference and bibliographic style.