**An Outline Guide for the Design of a Research Problem**

Based on Russell L. Ackoff, The Design of Social Research (Chicago: University of Chicago, 1953). Adapted by Delbert C. Miller in Handbook of Research Design and Social Measurement, 3rd Ed. New York: David McKay Company, Inc. 1977.

**1. The Problem**

1. Present, clear, brief statement of the problem with concepts defined where necessary.

2. Show that the problem is limited to bounds amenable to treatment or test

**2. Describe the significance of the problem with reference to one or more of the following criteria:**

1. Is timely

2. Relates to a practical problem

3. Relates to a wide population

4. Relates to an influential or critical population

5. Fills a research gap

6. Permits generalization to broader principles of social interaction or general theory

7. Sharpens the definition of an important concept or relationship

8. Has many inflections for a wide range of practical problems

9. May create or improve an instrument for observing and analyzing data

10. Provides opportunity for gathering data that is restricted by the limited time available for gathering particular data

11. Provides possibility for a fruitful exploration with known techniques

**3. The Theoretical Framework**

1. Describe the relationship of the problem to a theoretical framework

2. Demonstrate the relationship of the problem to the previous research

3. Present alternate hypotheses considered feasible within the framework of the theory

**4. The Hypotheses**

1. Clearly state the hypotheses selected for the test. (Null and alternate hypothesis should be stated.)

2. Indicate the significance of test hypotheses to the advancement of research and theory.

3. Define concepts or variables (preferably in operational terms)

a. Independent and dependent variables should be distinguished from each other.

b. The scale upon which variables are to be measured (quantitative, semiquantitative, or qualitative) should be specified

**5. Design of the Experiment or Inquiry**

1. Describe ideal design or designs with especial attention to the control of interfering variables

2. Describe selected operational design

a. Describe stimuli, subjects, environment, and responses with the objects, events, and properties necessary for their specification.

b. Describe how control of interfering variables is achieved.

3. Specify statistical tests including dummy tables for each test.

a. Specify level of confidence desired.

**6. Sampling Procedures**

1. Describe experimental and control samples

a. Specify the population to which the hypotheses are relevant.

b. Explain determination of size and type of sample

2. Specify method of drawing or selecting sample.

a. Specify relative importance of Type I Error and Type II Error.

b. Estimate relative costs of the various sizes and types of samples allowed by the theory

**7. Methods of Gathering Data**

1. Describe measures of quantitative variables showing reliability and validity when these are known. Describe means of identifying qualitative variables.

2. Include the following in description of questionnaires or schedules, if they are used:

a. Approximate number of questions to be asked of each respondent.

b. Approximate time needed for interview

c. The schedule as it has been constructed to this time.

d. Preliminary testing of interview and results.

3. Include the following in description of interview procedure, if this is used.

a. Means of obtaining information, i.e., by direct interview, all or part by mail, telephone, or other means

b. Particular characteristics interviewers must have or special training that must be given to them.

4. Describe use to be made of pilot study, pretest, or trial run.

a. Importance of and means for coping with unavailables, refusals, and response error.

**8. Working Guide**

* Prepare working guide with time and budget estimates

a. Planning

b. Pilot Study and Pretests

c. Drawing sample

d. Preparing observational materials

e. Selection and training

f. Trial plan

g. Revising plans

h. Collecting data

i. Processing data

j. Preparing final report

* Estimate total work-hours and cost

**9. Analysis of Results**

* Specify method of analysis

a. Use of tables, calculator, sorter, computer, etc.

b. Use of graphic tables

c. Specify type of tables to be constructed

**10. Interpretation of Results**

* Discuss how conclusions will be fed back into theory

**11. Publication or Reporting Plans**

* Write these according to department and graduate school requirements
* Select for journal publication the most significant aspects of the problem in succinct form (probably not in excess of fifteen typewritten pages double spaced). Follow style and format specified by the journal to which the article will be submitted.