

Educational Research -- ERSH 6200
Fall, 2008
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COURSE DESCRIPTION

The course will provide the student with the basic principles of research, including the ability to be an enlightened consumer of research, and the ability to prepare a protocol for a research project. See the section on Student Activities, below.

COURSE RATIONALE

In order to function as an informed practitioner in the field of education, one must understand the logic of the research process and the basic concepts of research methodology. In the professional setting, the practitioner needs not only to understand what others have done, but also to use research methods and values to evaluate his or her own practice. Some students also need the ability to demonstrate their professional skills by writing a research protocol and eventually conducting a formal research study (i.e., a thesis or dissertation) or to carry out formal or informal research and evaluation projects in the real world.

TEXTS

Required:

Huck, S.W. (1996) *Reading statistics and research*. NY: Harper and Collins.

Suggested:

Prochim, W. and Donnelly, J. (2007) *The research methods knowledge base*. Mason, OH: Thompson.

Kerlinger, F.N. (1973, 1986) *Foundations of behavioral research*. NY: Holt, Rinehart, and Winston.

Huff, D. (1953) *How to lie with statistics*. NY: Norton.

(Or almost any other book on educational research methods)

Recommended references are on reserve in the Curriculum Library.

COURSE OBJECTIVES

The successful student will be able to:

- 1. Demonstrate an understanding of the basic principles of research by responding to test questions requiring written discussion and short answers.**
- 2. Define and correctly apply basic research concepts such as:**
 - variable identification and selection (dependent, independent, etc)**
 - experimental design**
 - validity (various types)**
 - reliability (various types)**
 - control (design and statistical)**
 - causation**
 - correlation/covariance**
 - randomness**
 - probability**
 - bias (various kinds)**
- 3. Discuss and appropriately select (not calculate (well, maybe a little)) basic statistical analysis procedures, e.g.:**
 - measures of central tendency**
 - measures of variability**
 - frequency distribution**
 - correlation coefficient**
 - t-test**
 - chi square**
 - analysis of variance**
- 4. Identify (in a research report) and explain various threats to research validity, and the means of counteracting them.**
- 5. Locate published resource material on a specific research topic.**
- 6. Plan, organize, and write (in correct style) a research proposal, and present it orally.**
- 7. Plan for, collect, and organize brief quantitative and/or qualitative data.**
- 8. Interpret a simple statistical analysis output as produced by SAS, SPSS, or Epi Info statistical programs.**

Specific objectives will be provided in class.

STUDENT ACTIVITIES

- 1. Read suggested pages in the texts and handouts.**
- 2. Develop an annotated bibliography of approximately 10 references on a self-chosen topic in some area of educational/social/behavioral research. Each entry should include a correct APA reference and a statement of the research hypothesis.**
- 3. Review two articles, commenting on independent and dependent variables, hypotheses tested, general design, threats to validity, importance, clarity, and organization.**
- 4. Formal and informal assessments.**
- 5. Prepare portions of a simple research protocol. A guide will be provided.**
- 6. Present research protocol orally to class.**
- 7. Collect data for a group survey research project.**

EVALUATION

Grades will be based on a composite of the following:

- Article reviews (10%)**
- Take-home tests (40%)**
- Final project (50%)**

The purpose of the written activities is to provide me with information that supports the inference that you have learned something in this class. This means that relevance is valued. Creativity, wit, and elaboration are also valued. The overall distribution of scores will be relevant, but outliers will not exert undue influence (If you don't understand this sentence now, you should by the end of the term).

Note: When submitting written work, preferably typed, your name should appear *only* on the *back* of the *last* page. Also, please avoid fancy bindings and folders. I prefer a simple staple in the upper left corner.

**ERSH 6200
Semester Plan
Fall, 2008**

Date	Content	References
8/18	Introductions, Overview	RRS*: xiii-xviii RMKB: Ch 1
8/25-9/15	Research Process Research Problems and Hypotheses, Variables	RRS: Ch 1 RMKB: Ch 1
9/22-9/29	Threats to validity and research design	On Reserve RMKB: Ch 2-1, 7, 9, 11
10/6	Quasi-Exp & Causal Comparative research designs Correlational designs and statistics First article review due	RRS: 55-84 RMKB: Ch 12-3d
10/13	Scales of measurement Measures of central tendency & variability	RRS: Ch 2 RMKB: 3-3, 12-3
10/20	Significance/hypothesis testing Other statistics: t-test, ANOVA/ANCOVA, MR Presentations Bibliography due	RRS: Ch 7 RMKB: 14-1
10/27	Instrument validity Presentations Take-home due	RMKB: Ch 3-1
11/3	Instrument reliability Presentations	RMKB: Ch 3-2
11/10	Qualitative research methods (Guest lecturer?)	RMKB: Ch 8, 13, Cizek
11/17	Sampling, surveys, and observations Presentations	RMKB: Ch 2, 4
11/24	Thanksgiving break	
12/1	Computer data analysis Presentations	
12/8	Visual display of information Presentations	
12/10	Research proposal due 4:00 PM	

* ----- RRS=Huck, *Reading research and statistics*

RMKB= Prochim & Donnelly, *The research methods knowledge base*