

ERM 604: Methods of Educational Research

Instructor: Robert Henson, Ph.D.
Office: 233B Curry
E-mail/ IM: rahenson@uncg.edu

Office Hours:

- By Appointment
- TBA

Text Book:

Wiersma, W., & Jurs, S (2005). Research Methods in Education, (The 8th Edition).

Objective:

At some point many individuals will find the need to perform some kind of research. The research may be for a dissertation or it maybe because of a research question involved with ones work. The objective of this course is to provide a basic overview of the research methods used in education in addition to those concepts needed to make those ideas and conclusions accessible to others. We will discuss topic such as:

- Quantitative and Qualitative Research
- Experimental and Quasi-Experimental Research
- Ethnographic Research
- Sampling Designs
- Measurement and Data Collection
- Data Analysis

Grading:

Your grade in this class will be determined based on homework assignments (30%), a midterm exam (35%), and a final project (35%).

Homework Assignments:

Through out the semester there will be approximately 7 homework assignments that will be used to test your knowledge on the material taught in class and in the textbook (each worth 10 points). Some of these homework assignments will be taken from the textbook where others will involve library recourses. In any case, they will be handed out in class (and posted on Blackboard). For every day that the homework is late one point will be deducted from the final homework grade.

Midterm:

The mid-term will be given approximately half way through class. It will be an in-class exam and the questions will consist of Multiple Choice and Short Answer/Paragraph response. A study guide has been provided at the end of this syllabus.

Final Project:

Because this is a research methodology course the ultimate goal is to prepare you for your research. Therefore, instead of having a final exam, a final project will be due. Your grade (i.e., the 35% allotted for the project) will be determined from two parts. The first part (5%) is a basic research proposal (see chap 16). In determining a topic you should feel free to talk to me at some time before the proposal is due. However, if you choose not to talk to me before hand, the proposal will also be a way for me to evaluate your topic. Secondly, the main project will be worth 30% of your grade. The project should be written in APA style and written as though it was a paper you would like to publish.

Grade Cut-Offs:

The following are the lower cutoffs that will guarantee that grade.

- 90% - A
- 80% - B
- 70% - C
- 60% - D

Schedule:

Date	Topics	Readings
Aug 17	Intro and The Nature and Characteristics of Educational Research	Intro (Chapter 1)
Aug 24	Identify the Research Problem Literature Review	Chapter 2 and 3
Aug 31	Quantitative Research and Experimental Research	Chapter 4 and 5
Sept 7	Quasi-Experimental Research	Chapter 6
Sept 14	Non-Experimental Quantitative Research	Chapter 7
Sept 21	Qualitative Research Historical Research	Chapter 8 and 9
Sept 28	Ethnographic Research	Chapter 10
Oct 5	**Review**	Midterm
Oct 12	Mid-Term	Midterm
Oct 19	Mixed, Modeling, and Delphi Methods Proposal Due	Chapter 11
Oct 26	Sampling Design Measurement and Data Collection	Chapter 12 and 13
Nov 2	Data Analysis: Descriptive Statistics	Chapter 14
Nov 9	Data Analysis: Inferential Statistics	Chapter 15
Nov 16	Communicating Research	Chapter 16
Nov 30	Evaluating Research Reports Final Project is Due	Chapter 17

604 Proposal/Paper

The Proposal (Due Oct 19th):

The goal of the proposal is to get you started and well on your way to your final paper. So it should contain 2 basic sections. Remember, this is not the research paper so it should not be too long (1-3 pages) although if you feel like you want to add more, feel free.

Research Problem:

In the first section you should provide a brief description of the general field and state your research problem (see Chapter 2 and 3). This should provide a basic description of the problem you would like to study and also provide some background showing that you have completed some research. The following provides a basic set of questions that should be answered in this section

- What are you studying?
- What are the variables involved?
- Operationalize any variables that need to be defined.
- Do you have any hypotheses?
- General statements of what has been done previously (e.g., others have studied this and they found...)

Method:

This is where you describe the research design in about another 1-4 paragraphs. So you should give me some idea of how things will be set up. So address

- How many examinees/subjects will you have?
- What will the sample consist of (demographics)?
- Are there groups/how are they assigned?
- What kind of design will it be?

Notice, in some cases, I know that you will not be completed your own study. Potentially, you will have some one else's data or results and will be answering your own research questions about this data. That is perfectly fine, just explain that it is someone else's data and describe what the data set looks like.

The Final Paper (Due Nov 30th):

The paper should follow APA format. Therefore, in writing the paper it should have the following sections:

Introduction:

This section should contain a description of the general topic that will be discussed and your purpose (i.e., this will have your research statement). For example, if your paper is about specific method of teaching, then you should state this (i.e., your research statement) and you

should describe what has been done previously. Specifically, has anyone else studied this method? Are there other methods that are similar? What were their results? The main goal here is to set the stage for the rest of paper, so that when I get to the methods section I have a feel for what and why you are doing things.

Method:

Here you describe the method that you are using. Mainly, this is where you give the details of how you collected data and the form that data will take. It will include the sampling method and demographics, all analyses that will be done, and the form of the results.

Results:

Provide the results and describe.

Discussion (or Conclusion):

This is where you give your final interpretations of the study. Did you expect these results? This is also a good time to bring up any limitations (internal/external validity) and possible future directions that may be taken based on the results or the limitations. Of course, while you will want to mention the limitations try to leave the reader on a positive note (i.e., in the last sentence or paragraph).

Grading Guidelines for 604 Paper

This document contains the basic guidelines of things I will be looking for when I grade your paper. Obviously, I can't include all details, but if you do well on these points, then you will do well on the paper. Your performance on these topics is what will be graded.

Introduction

The goal of the introduction is to state your research goals (i.e., the research problem) and provide a basic summary of what has been done related to your research problem so:

1. Is the research statement clear and detailed? (You should not just say I am researching child development but tell me specifically what you are studying)
2. Do you provide a thorough literature review? I am not looking for a literature review for your thesis...but there should be enough to indicate what has been done recently. Something like this may include 5-10 (or more) main sources (respectable journals or documents)

Methods

For many of you this will not be your own research, but in any case you should provide enough info here to show me that you understand the type of research design. Specifically,

1. Did you do a good job at explaining your sample, the methods used to collect the data, the form of the data, the type of data, how was the data collected, what is the design?
2. Did you explain the analyses that you will be doing? Again, this is related to the Results section so if the analyses are not clear do the best you can explaining how you will get results and what you expect to get from them

Results

This section is basically describing the numbers, graphs, tables, or statistics that you got when you did what you described in the previous section. Also, this is the section that is not highly emphasized in this class. So I will just be looking to see that you give me enough to explain your conclusions

Discussion

This is the final section where you give me your explanations and conclusions of your results. So I will be looking for:

1. Do you clearly state your conclusions of the study and their usefulness in the field?
2. How do your conclusions relate back to what has been done in the past?
3. How reliable and valid is this study? Are there any limitations?
4. What might improve such a study, or how can you expand on these results (future directions) and what are your responses/solutions to the limitations?

Midterm Study Guide

I have gone through and tried to highlight most of the topics that I see as important concepts. As a disclaimer, this is only meant as a guide, so do not rely only on this because it is possible that not all details have been included.

The midterm is on **Oct 12th** and is designed to be about 1-1.5 hours. What I mean by this is that there will be between 30-40 multiple choice questions and between 2-4 essay/paragraph response questions.

Chapter 1 (Introduction)

- Know Vocabulary on page 25
- Know the general nature of all research (empirical, systematic, valid, reliable, take on many forms)
- Know difference between Basic and Applied Research
- Know the difference between Qualitative and Quantitative Research
- Know basic Activities of research (research problem, collect data, analyze, results, conclusions)

Chapter 2 (Identification of Research Problem)

- Know Vocabulary on page 50
- Know how to construct a research statement (statement or question form)
- Understand the difference between independent and dependent variables
- Know what the operational definition of a variable is
- Know what a control variable is
- Know the different types of variable measurement (nominal, ordinal, interval, ratio)
- Know the different types of hypotheses

Chapter 3 (The Review of the Literature)

- Know recognize Vocabulary on page 80
- Understand how to select studies for the literature review and summarize information

Chapter 4 (Research Design in Quantitative Research)

- Know Vocabulary on page 95
- Know about the idea of controlling variance and how (randomization, building in conditions, holding things constant, statistical adjustments)
- Characteristics of good research (unbiased, no confounding, control extraneous variables, statistical precision needed)

Chapter 5 (Experimental Research)

- Know Vocabulary on page 126
- Know what is meant by experimental design and experimental variable (basically understand what an Experimental Design is)
- Know the criteria for a well designed experiment (Lack artificiality, Basis for comparison, enough info, no confounding variables, representativeness parsimony)
- Know what we mean by Experimental Validity (internal, external, construct, statistical)
- Have general idea of types of threats to Validity
- Know designs (pre-test, pre-test post-test, Solomon, Factorial, repeated measures, and time series) and their benefits and limitations
- Know how to recognize each design from a diagram
- Know how to interpret results

Chapter 6 (Quasi-Experimental Design)

- Know Vocabulary on page 151
- Know what make something a Quasi-Experiment
- Know possible problem with Quasi-Experiment
- Know experimental designs (post-test, pre-test post-test, time series designs, single subject designs)

Chapter 7 (Nonexperimental Quantitative Design)

- Know Vocabulary on page 196
- Know ex post facto research (causal-comparative and correlational)
- Know Survey research
- Know survey designs (longitudinal [trend, cohort, panel] and cross-sectional)
- Know what good items are
- Know different item formats
- Know why identifying the source of nonresponses is a good idea
- Know about interviews (pros and cons...sources of error?)

Chapter 8 (Research Design in Qualitative Research)

- Know Vocabulary on page 220
- Know the components qualitative research (working design, working hypothesis, data collection, data analysis and interpret)
- Know what we mean by coding
- Perspectives of qualitative research (funnel vs. modified analytic induction)
- Know what we mean by validity, reliability, and comparability for qualitative research

Chapter 9 (Historical Research)

- Know Vocabulary on page 239
- Know what is meant by Historical research

- Know why this is a good thing
- Know what is meant by primary and secondary sources
- Know the difference between external and internal criticism as methods to validate your sources
- Know about synthesizing the information
- Know about possible problems to avoid in making conclusions (causality, should vs. do, intent vs. consequences)

Chapter 10 (Ethnographic Research)

- Know Vocabulary on page 270
- Know what is meant by Ethnographic Research
- Know its nature (phenomenological, naturalistic, holistic)
- Understand the schema (organization, culture, perspectives)
- Understand the identification of subjects
- Types of data collection (observation, video taping, interviewing, reviewing other sources)
- Know types of observation (participant-observer, privileged observer, limited observer)
- Understand what is meant by triangulation
- Understand the idea of coding
- Know what we mean by reliability and validity

General Things...

- Be able to compare and contrast the different research methods and integrate ideas across chapters
- When is one better than the other
- Are the philosophies the same
- How is reliability and validity dealt with
- When should we use each method