

ERM 604 – Methods in Educational Research Web-Based Course

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TEXTBOOKS

Gall, M. D., Borg, W. R., & Gall, J. P. (1996). Educational Research. Sixth Edition. White Plains, NY: Longman Publishers.

Campbell, D. T., & Stanley, J. C (1963). Experimental and Quasi-Experimental Designs for Research. Dallas: Houghton Mifflin

PURPOSE OF COURSE

The purpose of this course is to provide students an overview of the various types of educational research. This course covers issues, concepts, and various topics associated with research, research design, and data analysis.

METHODOLOGY

This is a web-based course. Students are required to actively learn the concepts through diligent reading of specified chapters and materials, getting involved in the discussion boards, completing the assignments, and seeking assistance when necessary. The instructor facilitates the course by providing readings, practice problems, discussion board questions and responses, additional resources, links to appropriate websites, feedback on assignments, and assistance when necessary.

Because this course is experimental, office hours have been set aside specifically for the students in this class and coincides with the course schedule. If you have questions that you believe need to be answered in person, attend class at the regularly scheduled time and location and assistance will be provided. The instructor will wait in the classroom until 4:15 pm. If there are no students, the instructor will return to her office.

ACADEMIC HONOR CODE

The UNCG Academic Integrity Policy applies in all instances. To obtain information regarding the Policy, please read the information provided at <http://saf.dept.uncg.edu/studiscp/Honor.html>

GRADING

Total Points:	285		
A+	285 – 276	A	275 - 266
A-	265 – 257	B+	256 - 248
B	247 – 238	B-	237 - 228
C+	227 – 219	C	218 - 209
C-	208 - 200		

COURSE OUTLINE

**WEEKS 1-3
INTRODUCTION**

Meet in Computer Lab the 1st and 2nd Class

Objectives
Describe the four types of knowledge yielded by educational research.
Explain the elements of a theory and the steps involved in testing a theory.
Describe the characteristics of a theory-based research project.
State reasons why it is difficult to apply research findings to educational practice.
Describe the research to publication process and the role of peer-reviewed journals.
Explain the role of APA and other professional organizations in research.
Describe the purpose and typical procedures of an institutional review board.
Describe several methods that researchers can use to ensure the privacy and confidentiality of research data.
Implement the major steps involved in conducting a literature review.
Describe the difference between preliminary, secondary, and primary sources and the role of each type in the literature-review process.
Perform internet searches
Reading and Assignments for the Introduction
Reading - Corresponding Chapters - 1, 2, 3, 4
Write a research question, due by 4:00 pm 2 nd class (5 points)
Perform a literature search and write a literature review, due by 4:00 pm 4 th class (20 points)
Test 1 covering material from weeks 1-3, due by 4:00 pm 5 th class (20 points)

WEEKS 4-5
STATISTICS
Meet in Computer Lab

Objectives
Describe the purpose of statistical significance in educational research and the difference between statistical significance, effect sizes, and practical significance.
Perform basic descriptive and inferential techniques using statistical software.
Use charts, plots, and graphs and identify the situations when each is most appropriate.

Reading and Assignments for Statistics
Reading - Corresponding Chapter – 5
Computer Assignment, due by 4:00 pm 6 th class (20 points)

WEEK 7
SAMPLING

Objectives
Describe the advantages and disadvantages of and procedures used in random sampling, systematic sampling, stratified sampling, and convenience sampling.
Identify factors that should be considered in determining sample size for a quantitative research study.
Explain why determining sample size in a qualitative research study involves a trade-off between depth and breadth.
Describe the criteria that should be satisfied in order to ensure high population validity for a sample.

Reading and Assignments
Reading - Corresponding Chapter – 6

**WEEKS 8-9
QUESTIONNAIRES**

Objectives
Describe approaches to yielding estimates of reliability and validity. Describe the standard error of measurement.
Describe and perform the steps in constructing and administering a research questionnaire.
Describe the methods of increasing response rates in survey research.
Discuss advantages of phone interviews, the factors that should be considered when selecting individuals to perform interviews, and training of the research interviewers.
Reading and Assignments
Reading - Corresponding Chapters - 7 (pages 249-257), and 8
Take Home Test 2 covering material from Weeks 4-8, due by 4:00 pm Week 8 (20 points)
Write a two-page questionnaire with cover letter, due by 4:00 pm Week 10 (20 points)

**OBSERVATION RESEARCH
WEEK 10**

Objectives
Explain the differences among duration, frequency-count, interval, and continuous procedures for recording observations.
Explain the differences among descriptive, inferential, and evaluative observational variables.
Describe the roles that observers play in quantitative research.
Explain how observers in a qualitative research study prepare themselves and gain entry into a field setting.
Determine the advantages and disadvantages of using a standard observation form in a research project.
Reading and Assignments
Reading - Corresponding Chapter – 9
Conduct a 30 minute observational study and construct a written report based on the findings, due by 4:00 pm Week 11. (20 points)

WEEKS 11-12
CAUSAL-COMPARATIVE AND CORRELATIONAL RESEARCH

Objectives
Describe the possible interpretations of a relationship between variable A and variable B that is discovered through causal-comparative research.
Plot and interpret a scattergram.
Describe the procedures involved in conducting a relationship and a prediction study.
Explain correction for attenuation, correction for restriction in range, and part/partial correlations in correlational research studies.
Distinguish between magnitude and statistical significance in correlation coefficients.

Reading and Assignments
Reading - Corresponding Chapters - 10 and 11
Write a one-page report on a descriptive research study from the National Center for Educational Statistics, due by 4:00 pm Week 12 (20 points)
Create and write a hypothetical research study on each of the following types of studies: longitudinal, cross-sectional, causal-comparative, and correlational, due by 4:00 pm Week 13 (20 points)

WEEKS 13-14
EXPERIMENTAL AND QUASI-EXPERIMENTAL RESEARCH

Objectives
Critically evaluation threats to internal and external validity of an experiment.
Describe procedures for increasing the generalizability of experimental designs.
Describe the commonly used experimental designs and the statistical techniques typically used to analyze data yielded by experiments.

Reading and Assignments
Reading - Campbell and Stanley Corresponding Chapters - 12 and 13
Take Home Test 3 covering material from Weeks 10-14, due by 4:00 pm Week 15 (20 points)

WEEK 15
APPLICATIONS OF RESEARCH – EVALUATION

Objectives
State the major difference between evaluative research and other types of research.
Describe procedures and reasons for clarifying the purpose of an evaluation and identifying the stakeholders.
Describe procedures for delineating the components of the program to be analyzed.
Explain how the reporting of an evaluation study typically differs from a research study.

Reading and Assignments
Corresponding Chapter – 17
Write a summary describing program evaluation, the purpose, what it entails, how it differs from research and how it is related to research, due by 4:00 pm Week 16 (10 points).

WEEKS 16-17
WRAP UP

Objectives
By the end of the course, you will be able to write a hypothetical research proposal that includes: 1) Correctly writing a hypothesis (distinguishing among directional, null, research questions, research objectives, and statements of purpose). 2) Performing an extensive literature review on the research topic and writing a literature review chapter that sets up the research study. 3) Selecting the appropriate type of research methodology. 4) Identifying the statistical method(s) that appropriately fit the research design and hypothesis.

Reading and Assignments
Write a research methodology section and synthesize feedback from previous sections into a research proposal, due by 4:00 pm Week 17 (30 points)

In Class Final Exam Week 17 (50 points)

SUMMARY OF PROJECTS AND DATES:

- 1) Write a research question, due by 4:00 pm Week 2 (5 points)
- 2) Perform a literature search and write a literature review, due by 4:00 pm Week 4 (20 points)

- 3) Take Home Test 1 covering material from Weeks 1-3, due by 4:00 pm Week 5 (20 points). The test will be posted on Blackboard by 4:00 pm Week 4.
- 4) Computer Assignment, due by 4:00 pm Week 6 (20 points)
- 5) Take Home Test 2 covering material from Weeks 4-8, due by 4:00 pm Week 8 (20 points). The test will be posted on Blackboard by 4:00 pm Week 7.
- 6) Write a two-page questionnaire with cover letter, due by 4:00 pm Week 10 (20 points)
- 7) Conduct a 30 minute observational study and construct a written report based on the findings, due by 4:00 pm Week 11. (20 points)
- 8) Write a one-page report on a descriptive research study from the National Center for Educational Statistics, due by 4:00 pm Week 12 (20 points)
- 9) Write one example for each of the following types of studies: longitudinal, cross-sectional, causal-comparative, and correlational, due by 4:00 pm Week 13 (20 points)
- 10) Take Home Test 3 covering material from Weeks 10-14, due by 4:00 pm Week 15 (20 points). The test will be posted on Blackboard by 4:00 pm on Week 14.
- 11) Write a summary describing program evaluation, the purpose, what it entails, how it differs from research and how it is related to research, due by 4:00 pm Week 16 (10 points).
- 12) Write a research methodology section and synthesize feedback from previous sections into a research proposal, due by 4:00 pm Week 17 (30 points)
- 13) In Class Final Exam, Week 17 (50 points)
- 14) Discussion Board Participation (10 points). Discussion questions will be posted by 4:00 pm the following weeks: 2, 3, 6, 7, 8, 10, 11, 12, 13, 14. One point for each date is earned when you post your response to the question. Responses must be registered by the following week after the posted date of the question.

Assignments – Late assignments will not be accepted under any circumstances. Your completed work must be emailed to me or brought to my office (slide under my door if I am not available) on or before the due date and time. If you email your assignment to me, be sure to register the mail so that you have assurance that it was received.