

John Carroll University
Department of Education and Allied Studies
Syllabus Fall 2006

Course #: ED 502, Section 1

Course Title: Research Methods. Thursday 6:00-8:40 p.m. AD25

Course Rationale: ED 502 is grounded in the Jesuit view of education and seeks to engender in its students the Jesuit ideal of the educator. This course focuses on all four strands of the Jesuit Conceptual Framework for Advanced Programs. Theory cited in this framework regarding professional development, subject matter and assessment provides the knowledge base undergirding this course of study. The course is further grounded in the belief that it is important for educators to be knowledgeable about research in their fields. This kind of knowledge requires reading professional literature, and in order to read such literature with understanding, it is necessary to know something about research itself.

The purpose of this course is to (1) familiarize students with the basic strategies used to conduct research in education, school and community counseling, school psychology and related fields; (2) familiarize students with the basic methodology for collecting and interpreting data typically reported in education, school and community counseling, school psychology and related fields; (3) familiarize students with the basic conventions for published reporting research in his/her field of interest; and (4) provide students with the knowledge and skills to become critical consumers of educational research as in order to improve their effectiveness as teachers, administrators, counselors, and school psychologists.

Desired Outcomes

Referenced to the *JCU Conceptual Framework*, the student will be able to:

- Reflect on professional work
- Assist fellow professionals
- Demonstrate knowledge of resources
- Design coherent research interventions
- Establish a context for learning/successful interventions
- Assume responsibility in decision making and helps to ensure that decisions are based on the highest professional standards
- Use effectively references relevant to research problems in field of interest.
- Interpret correctly and evaluates critically the reported research of others in field of interest.
- Apply principles and strategies learned in class to problems encountered in their professional lives.

Referenced to *IRA, CACREP, and ELCC Standards and Guidelines*, the student will be able to:

- Apply research for improved literacy
- Understand and conduct research with a range of methodologies

- Promote and facilitate teacher- and classroom-based research
- Understand the importance of research and opportunities and difficulties in conducting research in the counseling profession
- Understand the ethical and legal considerations involved in research
- Use technology and statistical methods in conducting research
- Use research to improve counseling effectiveness
- Understand principles, models, and applications of needs assessment, program evaluation, and use of findings to effect program modifications
- Distinguish characteristics of research; steps in the scientific method, with emphasis on problem solving formation and the formation and testing of hypotheses
- Understand principles and major strategies of data collection
- Understand and interpret descriptive statistics
- Be able to critically evaluate the adequacy of research
- Be able to locate and analyze relevant research information in major reference works, indexing systems, and professional journals.

Knowledge Base:

Although the roots of educational research lie in the philosophy of Positivism advanced by Comte in the late 18th and early 19th century, as well as the rise of the scientific method and experimentation in the 18th century, it was not until the 1923 publication of McCall's *How to Experiment in Education*, followed by Fisher's *Design of Experiments* in 1935, that a knowledge base specific to educational research began to be organized. This based has been dramatically expanded over the years, most recently by the thought and work of researchers who have turned to the qualitative methods of anthropology and other field-based disciplines for inspiration. The specific aspects of the knowledge base covered in this course are cited below:

Knowledge

1. The process of conducting research in the fields of teaching and learning, school leadership, school and community counseling, and school psychology
2. Distinguishing characteristics of "research"; steps in scientific method, with emphasis on problem formation, and the formation and testing of hypotheses
3. Location and use of reference materials
4. Principles and major strategies (including computer assisted methodologies) of descriptive, correlational, causal-comparative, and experimental research (including true experimental, quasi-experimental, single case design).
5. Principles and major strategies (including computer assisted methodologies) of qualitative and historical research.
6. Principles and major strategies of data collection (sampling and measurement).
7. Statistical measures of central tendency and variability
8. Interpretation of correlation coefficients
9. Interpretation of tabular and graphical presentations of data
10. Ethical/legal principles in the conduct of research on human subjects
11. History of the use of research in U.S. education and related fields.

Attitudes: Course activities have been devised to foster the following attitudes among students:

1. Adoption of a probabilistic frame of reference and appreciation for science as self-correcting system
2. Appreciation of research as a human activity
3. Recognition of dignity, privacy and other human rights of research subjects and the moral and legal responsibility of protecting subjects from physical and psychological discomfort or harm
4. Assumption of the existence of the external world, independent of human perception of it
5. Assumption that this world is rational and lawful
6. Assumption that this world is understandable
7. Respect for facts as established by empirical evidence, rather than appeals to authority, self-evidence or personal opinion
8. Orientation toward unbiased investigation, seeking objectively to determine facts rather than persuade or argue in defense of pre-established positions
9. Orientation toward recognizing and acknowledging sources of bias in the research setting and in those conducting research
10. Disposition toward critical analysis of all propositions and evidence
11. Respect for the scientific method
12. Respect for the values and approaches adopted by researchers utilizing qualitative approaches to uncovering new knowledge
13. Understanding the impact of race, class, gender, age, disability, and other such factors as variables in the research process.

Skills: By the end of the course, the student will have demonstrated the ability to

1. Differentiate research from other modes of problem solving and knowledge acquisition
2. Distinguish empirically established facts from inferences, opinions or value judgments in research reports
3. Critically evaluate the adequacy of research questions, problem statements or hypothesis statements in published research and distinguish such statements from assumptions, results or conclusions.
4. Locate and analyze relevant research information in major reference works, indexing systems, and professional journals, including electronic journals and other such resources
5. Analyze and critically evaluate reports of survey, correlational, causal comparative and experimental research
6. Analyze and critically evaluate reports of qualitative and historical research
7. Demonstrate familiarity with major data collection methods (i.e. questionnaires, tests, observation)
8. Calculate and interpret the mean, median, mode, range, variance and standard deviation for a given data set.
9. Interpret a table or statement presenting correlation coefficients.
10. Interpret a table or statement reporting reliability or validity evidence
11. Demonstrate familiarity with ethical principles in conducting research.

Values: Course activities have been devised to foster among students the valuing of

1. Acknowledging the fallibility of the current state of knowledge and research
2. The inevitability of value judgments, moral choices, personal decisions, and goal setting that is inherent in the research process
3. Commitment to ethical principles and legal safeguards in the conduct of research
4. The inherent value of seeking understanding and knowledge
5. Acceptance of the uncertainty of knowledge and theory
6. Searching for empirical data and interpretations of their meaning
7. Demanding verification of reported results and assertions
8. Relying on logical principles (consistency, contradiction, etc.) as guidelines to investigation.

Teaching Strategies:

Format for conducting class sessions varies. In general, each class will provide an opportunity for review of material presented in the previous class. When possible, the first half of each session will be devoted to the introduction of new material. This will be followed by group discussions and presentations, involving the application of research concepts to applied situations. During the sessions dealing with samples, measures, and statistics, the instructor will lecture to introduce, review and clarify material. Students will work individually or in small groups on problems and questions. There will also be class and small group discussions of problems and questions. Students may be given homework exercises for practices. The instructor will provide individual or small group consultation or tutoring, as needed. Students may schedule an individual conference with the instructor outside of class by contacting the instructor and arranging a meeting.

Service to Students with Disabilities

John Carroll University recognizes its responsibility for creating an institutional climate in which students with disabilities can succeed. In accordance with University policy, if you have a documented disability, you may be eligible to request accommodations from the office of Services for Students with Disabilities (SSD). Students with disabilities are entitled to reasonable accommodations and should have equal access to learning. Please contact the SSD coordinator, Allison West, at (216) 397-4967 or come to the office located in room 7A, in the Garden Level of the Administration Building. After your eligibility for accommodations is determined, you will be given a letter which, when presented to instructors, will help us know best how to assist you. Please keep in mind that accommodations are not retroactive so it is best to register at your earliest convenience.

Course Evaluation

A class is a community of learners. To be successful, the class depends not only on the teacher but also the students. As your teacher, I will come to class each day prepared to instruct and to answer your questions--to help you master the rudiments of educational research. However, students learn from each other; you must be ready to learn, to ask questions, and to explain what you do and do not understand. Together,

we will conquer a very challenging topic. Student attendance, preparation and participation are a key element of student performance. Therefore,

- Students are expected to read the text assignments listed for each class session and to ask the instructor to clarify anything they don't understand. Students must complete homework practice assignments.
- Students are expected to complete and turn in the written assignments on the dates they are due.
- Students are asked to notify the instructor on days that the student will be absent from class, although every effort should be made not to miss class. Unexcused absences or excessive absences will impact the student's final grade.

Activity	%
Midterm	15
Final	15
Research Symposia	20
Quizzes	10
Proposal	40

Evaluation	
A	95.0%
A-	92.5%
B+	90.0%
B	87.5%
B-	85.0%
C+	82.5%
C	80.0%

Exams: 30%

Two exams (equally weighted) will be given during the semester that will focus on the work from the previous weeks. These will provide an opportunity to monitor progress and understanding of the major concepts covered in the course. Each exam will be closed notes/book, multiple choice consisting of 30 questions taken from the textbook website over the previously covered chapters or constructed by the instructor. The exams will be in-class, but will not take the entire class period. The material cumulates over the duration of the course, so the final may cover material discussed before the midterm.

Research Symposia: 20%

According to the American Educational Research Association, a symposium provides an opportunity for examining specific problems or topics from a variety of perspectives. Each week, two articles will be selected for discussion in the following week. Each student will have an opportunity to select and lead the discussion. Student selected articles should be provided to the class at least one week prior to the discussion. All students are expected to read the articles and participate in the discussion whether they are lead or not. Lead students will submit a brief summary of the research presented. Specific guidelines for summary will be provided.

Quizzes: 10%

Students are expected to read the assigned reading prior to class to ensure that classroom discussions are optimized. Each week students should take the

practice quizzes assigned off of the textbook website and forward the results to me via e-mail at lquinn@jcu.edu. The grades do not count. The actual taking of the practice quizzes is what will account for this percentage. There are 11 weeks that quizzes are due. Quizzes are due before the class period listed. You have a free pass for one week. Late quizzes do not count. You are free to take the quizzes early 😊

Research Proposal: 40%

Students will design and present (in writing and orally) an original proposal for a research study around a topic of interest in their field of study. This project provides the opportunity for demonstrating competence in the application of concepts related to educational research. This research will be constructed throughout the course.

Tentative Course Outline (Professor reserves the right to change the course schedule)

Date Th	Text Chapter	Topic	Activity / Notes	Practice Quiz due before class on Chapter(s)
8/31	1-2	Course Overview/Orientation Nature and Types of Research		
9/7	3, 21	Preparing and Evaluating Plan		1, 2
9/14	22	Library Workshop: Electronic Databases and Literature Search		3, 21
9/21	4, 5	Sampling and Measuring Instruments		22
9/28	6-8	Quantitative Methods I		4, 5
10/5	9-10	Quantitative Methods II		6, 7
10/3				8, 9
10/19		Research Workshop	Midterm	10
10/26	14-15	Qualitative Methods I		
11/2	16-17	Qualitative Methods II		14-15
11/9	11-13	Descriptive and Inferential Statistics		16-17
11/16	18	Qualitative Analysis		11-12
11/23		Thanksgiving!		
11/30	19-20	Mixed Methods and Action Research		18
12/7		Presentations	Proposal presentation; written proposals due	
12/14	Final Exam		Final Exam	

Other Notes:

- Blackboard: I will be using Blackboard for the posting of all notes, articles, information. I will also be using the e-mail feature so make sure that you have it routed to where you see them.
- Late assignments: 10% will be taken off for one class period late, 20% will be taken off for two classes late, after that, the project will receive a zero.
- Incompletes: There will be **NO** incompletes given for this course unless you have a documented emergency that requires you to miss most of the course. If an assignment is not turned in, eventually you will receive a zero for the grade. Please let me know if you are having such an emergency to see if alternative arrangements can be made.

- Writing Style: American Psychological Association. (2001). *Publication manual of the American Psychological Association* (5th ed.). Washington, DC: Author.
- Academic Dishonesty: Acts of academic dishonesty (cheating, plagiarism- includes not citing sources, submission of work for more than one class, fabrication, fraud, etc.) are expressly forbidden. Infringements will be dealt with according to John Carroll policy. This may include failing the assignment, failing the course, and even being expelled from the University. See your student handbook for details.
- Student work for course portfolio: The professor reserves the right to retain, for pedagogical reasons; either the original or a copy of your work submitted either individually or as a group project for this class. Students' names will be deleted from any retained items.

Annotated Bibliography:

Against All Odds: Inside Statistics. A videotape series produced by the Consortium For Mathematics and Its Applications. American Statistical Association, And American Association for Quality Control.

American Educational Research Association. (1992) Ethical standards of the American Educational Research Association. (Reprinted in *Educational Researcher* (October 1992).

Cochran-Smith, M. & Little, S.L. (1992, March-April). Interrogating cultural diversity; Inquiry and action. *Journal of Teacher Education*, 43, 104-115. Proposes ways to utilize research to improve practice. The focus is on teacher as researcher.

Light, R.J., Singer, J.D. & Willett, J.B. (1990) *By design*. Cambridge, MA: Harvard University press. Although it is intended for individuals planning research of higher education, this book raises & discusses questions that need to be answered by anyone planning a study. An easy read.

McEwen, N. (1992) Quality criteria for maximizing the use of research. *Educational Researcher*, 21, 20-32. Discusses criteria that can be used to evaluate research, then illustrates the use of these criteria.

Pierce, J.W., Blomeyer, R. & Roberts, T.M. (1995, June-July) Surfing the Internet; A whale of an information source for educational researchers. *Educational Researcher*, 24, 25-26. Provides an introduction to using the Internet to find out what educational researchers are up to.

Wainer, H. (1992, January-February) Understanding graphs and tables. *Educational Researcher*, 24, 14-23. Discusses how the ways of presenting data graphically and in tables can clarify or mislead the reader.

Web Links:

Beginner's Guide to writing research proposals

http://www.ucalgary.ca/md/CAH/research/res_prop.htm

Against All Odds video series on statistical analysis. You need to sign up (free) to view the videos on-line

<http://www.learner.org/resources/series65.html>