

Education Research Methodology (EDF6481)
Syllabus Fall 2017

Course Description and Objectives

This course is designed to provide doctoral students with an in-depth analysis of the methods and procedures of research in education. The course will introduce students to qualitative, quantitative, and mixed methods research approaches in education. Students will develop a broad understanding of these methods and how/when they should be employed. Specific topics will include conceptualizing educational research, constructing measurement instruments, collecting and analyzing qualitative and quantitative data, drawing inferences, and writing research proposals. As a depth requirement, students will employ one specific method in the design and possible implementation of a small research study which they will present orally and as a written formal research proposal or article.

Meeting Information

Meeting time: 5:00-7:40pm Mondays
Location: ZEB 312

Contact Information

Professor: Zahra Hazari
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Office: ZEB 241A, VH 145
Office phone: (305) 348-2096
Office hours: Tuesdays at 9am and by appointment

Grading Scale

A: 90-100%
B: 80-89%
C: 70-79%
D: 60-69%
F: <60%

Requirements

Textbook: Gay, L.R., Mills, G.E., & Airasian, P.W. (2012). Educational Research: Competencies for Analysis and Applications. Pearson Higher Ed.
Response System: Socrative - <https://www.socrative.com/>
Course Management: Canvas - <https://canvas.instructure.com/>
Software: R Package for Statistical Computing - <https://www.r-project.org/>
R Studio - <https://www.rstudio.com/>

Grading Scheme

Activities	Points
Reading Quizzes, Class Participation	10
Critiques (x2)	20
Assignments (x3)	30
Outline of Research Paper/Proposal	10
Final Research Paper/Proposal	15
Research Presentation	15
TOTAL	100

Note: Late submissions will lose 10% per day including weekends/holidays.

Class Preparation and Participation

Punctual attendance is required. If you are absent or more than 15 minutes late for class, you will not receive the participation credit for that day. If you miss a class, you will be responsible for all notes, assignments, and announcements made in class. In addition to attendance, you will be expected to come prepared (complete all assigned readings) and *actively participate* throughout the class period in discussions and activities. Failure to participate will also result in your not receiving participation credit for that day

The assigned readings for this course vary in length, and you are encouraged to read thoughtfully in all cases. Lightly skimming the material will not adequately prepare you for the level of critical thinking and engagement you are expected to display in class discussions. Some of the readings are from primary sources (research articles), other readings are from secondary texts (methodology chapters). You are also required to do additional research and reading to inform your assignments, paper, and presentation for the course. (Keep this in mind when budgeting your time for this course.)

Reading Quizzes

There will be several reading quizzes throughout the semester. These will be administered in class only using Socrative. More details will be provided in class.

Critiques (x2)

Throughout the course, we will be reading STEM education research articles that report on studies employing different methodologies. You will be required to write a one page single-spaced critique on two of these studies. Do NOT summarize articles, critique them! The following questions can be used to guide your thinking when writing the critiques (you *do not* have to answer all these questions):

- Did the literature review lead to a theoretical base or hypothesis? Does the review clearly relate previous studies to the current research problem? Does the review help establish the importance of the research?
- Was the research question or problem clearly stated?
- Was the sample and method of selection clearly described and appropriate (e.g. large enough, from the right population, etc.) for the methodology used? Could the sampling affect (bias) the results?
- Were the instruments and how they were used described clearly? Was reliability and validity addressed adequately? Were interviewers/observers trained?
- Are the procedures for collecting information described fully? Are there any clear weaknesses in the design of the study (e.g. confounding variables not controlled for)?
- Are the findings presented clearly? Is there sufficient descriptive information to interpret the results?
- Is there adequate interpretation/discussion of the findings? Are the results discussed in relation to previous studies? Are limitations included in the discussion? Are the conclusions/implications clearly stated and based on the results and the discussion?
- How could the research have been improved?

Assignments (x3)

There will be three assignments distributed throughout the course. The first assignment focuses on qualitative methods and will require you to write a protocol, conduct an interview, and analyze the interview data. The second assignment focuses on quantitative methods and will require you to analyze quantitative data using R software. The third assignment will require you (with a group) to present on a methodology that was not discussed in class. More details about the assignments will be provided in class.

Research Paper

- Option 1: Article - Write a short journal-style research article that includes sections covering the background, research question(s), methodology, and results/discussion of a small educational research study that you carried out.
- Option 2: Proposal - Write a short research proposal (laying out a planned educational research study) including literature review, theoretical framework, research questions, and proposed study methodology (including design, sample selection, instruments/protocols, anticipated analyses, and appropriate justifications for each). This can also be written as the beginning of a longer journal-style research article if your data has already been collected but not yet analyzed. In this latter case, make sure to include a description of the proposed analyses.

Outline of Research Paper: You will have to provide me with an **outline** for your paper (2 pages, single-spaced) midway through the course with appropriate section headings and summaries of what will appear in the sections. The outline can also be a working draft with part of your work for sections you have begun and summaries for remaining work.

Final Paper: Your final paper must be at least 2500 words and must be accompanied by a reference list. The references must also be appropriately cited within the body (depending on the citation style of the journal/conference or funding agency you have in mind). For option 1, the journal/conference you intend the paper for must be specified and a copy of an article from that journal/conference provided with your final paper.

Research Presentation

The above research plans/studies will be presented to the class in a 10 minute conference-style talk with 8 minutes allotted to the presentation and 2 minutes for questions. For those who do not have results to present, a more detailed discussion of the theoretical framework will be required. There will be a grading rubric for the presentations with 50% of the grade resting on peer assessment and 50% on instructor assessment. I reserve the right to over-ride unfair peer assessments.

Course Outline

<i>Date</i>	<i>Topics & Assignments</i>	<i>Due</i>
08/21	Day 1. Course introduction, qualitative vs. quantitative methods, types of data, designing an educational research study	
08/28	Day 2. Philosophical foundations, theoretical frameworks, qualitative research approaches (case study), reliability and validity intro; qualitative data collection	Reading Quiz (RQ) 1
09/04	Holiday	
09/11	Day 3. Qualitative research approaches – Case studies continued and ethnography; observation and taking field notes	Critique 1, RQ 2
09/18	Day 4. Qualitative research approaches – Phenomenography and phenomenology; conducting interviews	RQ 3
09/25	Day 5. Qualitative research approaches – Grounded theory; qualitative data analysis	Assignment 1, RQ 4
10/02	Day 6. Quantitative research approaches – Quantitative data collection, measurement	
10/09	Day 7. Quantitative research approaches – Reliability and validity issues	Paper Outline
10/16	Day 8. Quantitative research approaches – Experimental & quasi-experimental designs	RQ 5
10/23	Day 9. Quantitative research approaches – Non-experimental designs, data analysis	Critique 2, RQ 6
10/30	Day 10. Quantitative research approaches – Quantitative analysis	
11/06	Day 11. Mixed methods approaches – Mixed methods, multi-methods, and action research	Assignment 2, RQ 7
11/13	Day 12. Mixed methods continued and other research approaches	Assignment 3
11/20	Day 13. Other research approaches continued and summary review	
11/27	Thanksgiving Break	
12/04	Day 14. Oral research presentations (this class may run long)	Presentations
12/08	No class – Final research papers due	Final Papers

Academic Integrity

“Florida International University is a community dedicated to generating and imparting knowledge through excellent teaching and research, the rigorous and respectful exchange of ideas, and community service. All students should respect the right of others to have an equitable opportunity to learn and to honestly demonstrate the quality of their learning. Therefore, all students are expected to adhere to a standard of academic conduct, which demonstrates respect for themselves, their fellow students, and the educational mission of the University. All students are deemed by the University to understand that if they are found responsible for academic misconduct, they will be subject to the Academic Misconduct procedures and sanctions, as outlined in the Student Handbook.” FIU’s Code of Conduct will be applied for all assignments, projects, reports and exams (http://academic.fiu.edu/academic_misconduct.html). In particular, cheating and plagiarism will result in a grade of zero with no options to resubmit.

Cheating: The unauthorized use of books, notes, aids, electronic sources; or assistance from another person with respect to examinations, course assignments, field service reports, class recitations; or the unauthorized possession of examination papers or course materials, whether originally authorized or not. Any student helping another cheat may be found guilty of academic misconduct.

Plagiarism: The deliberate use and appropriation of another's work without any indication of the source and the representation of such work as the student's own. Any student who fails to give credit for ideas, expressions, or materials taken from another source, including internet sources, is guilty of plagiarism. Any student helping another to plagiarize may be found guilty of academic misconduct.

Disability Policy

For information on resources for students with disabilities, see <http://drc.fiu.edu/>

References (General)

- Bogdan, R., & Biklen, S. K. (2006). *Qualitative research for education: An introduction to theories and methods* (5th ed.). Boston, MA.: Pearson A & B.
- Carspecken, P. F. (1996). *Critical ethnography in educational research: A theoretical and practical guide*. New York: Routledge.
- Charmaz, K. (2006). *Constructing Grounded Theory: A Practical Guide Through Qualitative Analysis*. Thousand Oaks, CA.: Sage.
- Cohen, L., Manion, L., & Morrison, K. (2000). *Research methods in education* (5th ed.). New York, NY: Routledge.
- Creswell, J. W. (2003). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches* (2nd ed.). Thousand Oaks, CA.: Sage.
- Lyne, L. S. (2006). *A cross section of educational research: Journal articles for discussion and evaluation* (3rd ed.). Glendale, CA: Pyrczak.
- Gay, L. R., Mills, G. E., & Airasian, P. W. (2006). *Educational Research: Competencies for Analysis & Applications* (8th ed.). Upper Saddle River, NJ: Prentice Hall.

- Gee, J. P. (1999). *An Introduction to Discourse Analysis: Theory and Method*. New York, NY: Routledge.
- Merriam, S. B. (1998). *Qualitative research and case study applications in education*. San Francisco: Jossey-Bass Publishers.
- Sax, G. (1997). *Principles of Educational and Psychological Measurement and Evaluation* (4th ed.). Belmont, CA: Wadsworth.
- Seidman, I. (1998). *Interviewing as qualitative research: A guide for researchers in education and the social sciences* (2nd ed.). New York, NY: Teachers College Press.
- Sherman, R. R., & Webb, R. B. (1988). *Qualitative Research in Education*. London: Routledge.
- Spector, P. E. (1992). *Summated Rating Scale Construction: An Introduction*. Newbury Park, CA: Sage.
- Strauss, A., & Corbin, J. (1990). *Basics of qualitative research*. Newbury Park: Sage.
- Tashakkori, A., & Teddlie, C. (1998). *Mixed methodology: Combining qualitative and quantitative approaches*. Thousand Oaks, CA.: Sage.
- Vogt, W. P. (2006). *Quantitative Research Methods for Professionals in Education and Other Fields*. Columbus, OH: Allyn & Bacon.

References (Methodology Chapter Readings)

- Cohen, L., Manion, L., and Morrison, K. (2000). *Research Methods in Education* (5th ed.). New York, NY: Routledge.
- Creswell, J. W. (2003). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches* (2nd ed.). Thousand Oaks, CA.: Sage.
- Devellis, Robert F. (2003). *Scale Development: Theory and applications* (2nd ed.). Thousand Oaks, CA : Sage.
- Gay, L. R., Mills, G. E., and Airasian, P. W. (2006). *Educational Research: Competencies for Analysis and Applications* (8th ed.). Upper Saddle River, NJ: Prentice Hall.
- Hutchinson, S. A. (1988). *Education and Grounded Theory*. In Sherman, R. R. and Webb, R. B. (Eds), *Qualitative Research in Education*. London: Routledge.
- Leedy, P. D., and Ormrod, J. E. (2010). *Practical Research: Planning and Design* (9th ed.). Upper Saddle River, NJ: Pearson.
- Marton, F. (1988). *Phenomenography*. In Sherman, R. R. and Webb, R. B. (Eds), *Qualitative Research in Education*. London: Routledge.
- Merriam, S. B. (1998). *Qualitative research and case study applications in education*. San Francisco: Jossey-Bass Publishers.
- Sax, G. (1997) *Principles of Educational and Psychological Measurement and Evaluation* (4th ed.). Belmont, CA: Wadsworth.

Other research articles exemplifying specific methodologies will also be used as examples throughout the course.

NOTE: This syllabus may change according to class needs.