

**GEORGE MASON UNIVERSITY  
COLLEGE OF EDUCATION AND HUMAN DEVELOPMENT  
GRADUATE SCHOOL OF EDUCATION  
Ph.D. in Education Program**

**EDRS 810 003: Problems & Methods in Educational Research**

3 credits, Spring 2015, CRN 12031

Wednesdays, 4:30-7:10 PM, Thompson L014

**Professor: Nancy Holincheck, Ph.D., NBCT**

**Office Hours:** 3:30-4:30 Wednesdays or by appointment

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**Course Description:**

*Prerequisites: Admission to the Ph.D. program or permission of instructor.*

This is an advanced course in the interpretation and application of education research methods.

Emphasizes comparison of alternative philosophies of research, ways of formulating questions/hypotheses, research plans, and analysis procedures. Students evaluate existing studies and investigate a range of research approaches.

**Course Objectives**

Upon successful completion of the course, students should:

- be able to understand what research is, and how it differs from other intellectual and practical activities in education;
- be able to understand the major approaches to educational research, and the implications of the differences between these for doing and evaluating research in education;
- be able to find, understand, evaluate, and apply published research that is relevant to their field;
- be able to design the basic components of small-scale research studies, both quantitative and qualitative, including
  - identifying a research problem to study
  - formulating the purposes of the study
  - developing a conceptual framework for the study
  - generating appropriate research questions
  - planning relevant and feasible methods of sampling, data collection, and analysis
  - anticipating plausible validity threats, and thinking of ways to deal with these
  - dealing appropriately with ethical issues in the research
- be able to write clearly and coherently about the conceptual framework, questions, and methods used in a research study;
- be able to use the writing style described in the Sixth Edition of the *Publication Manual of the American Psychological Association* (APA) for writing term and research papers;
- be able to reflect on their actions and choices and use that reflection to inform practice;
- be able to present written research results clearly and coherently.

**Course Methodology:** This course consists of lectures, large group and electronic discussion, in class activities, and individual/group assignments. *All readings must be completed prior to the class session* in order to take advantage of, and participate in, class activities and discussions.

## Required Texts

- Johnson, R. B. & Christensen, L. (2014). *Educational research: Quantitative, qualitative and mixed methods approaches*. Thousand Oaks, CA: SAGE Publications.  
*This text has a companion website for students: <http://www.sagepub.com/bjohnson5e/main.htm> with study guides, conceptual frameworks and practice quizzes.*
- Alvesson, M. & Sandberg, J. (2013). *Constructing Research Questions: Doing Interesting Research*. London: SAGE Publications.
- American Psychological Association. (2009). *Publication manual of the American Psychological Association* (6th ed.). Washington, DC: Author.

## Recommended Readings:

- Keller D. K. & Casadevall-Keller, M. L. (2010). *The tao of research*. Los Angeles: SAGE.
- Vickers, A. (2010). *What is a p-value anyway? 34 Stories to help you actually understand statistics*. Boston, MA: Addison-Wesley.

## Required Access to Course Blackboard Site

Blackboard will be used to post important information for this course. Announcements and resources are posted on the Blackboard site in between class sessions. You will submit assignments electronically through Blackboard. You are responsible for accessing the materials prior to class. In addition, you will need to login to Blackboard to upload assignments for the course.

Access Blackboard through myMason:

- Go to <http://mymasonportal.gmu.edu>
- Enter your user login and password (the same as your GMU email login and password)
- Click the “Courses” tab at the top of the screen
- Select your course from the middle column.

## Course Assignments & Examinations

	<i>Points</i>
Participation & Professionalism	20
Evaluation of Empirical Research Studies (2)	10
Human Subjects Online CITI Training	10
Quantitative Research Proposal Paper	25
Qualitative Research Proposal Paper	25
Poster Presentation	10
<i>Total Points</i>	100

### 1. Participation & Professionalism (20%)

Students will be asked to work individually or in small groups in class assignments throughout the semester. Students will also be asked to participate in online Blackboard Discussions outside of class time. Because of the importance of lecture and discussion to your total learning experience, you are strongly encouraged to both attend and participate in class regularly.

Attendance, punctuality, preparation, and active contribution to small and large group efforts are essential. These elements of your behavior will reflect the professional attitude implied in the course goals and will account for 20% of your course grade. Students who must miss a class must notify the instructor (preferably in advance) and are responsible for completing all assignments and readings for the next class.

## 2. Evaluation of Empirical Research Articles (10%)

Students will analyze & evaluate two empirical research articles, including one quantitative intervention study and one qualitative study. The studies should be drawn from education literature that is relevant to the student's field and/or Ph.D. concentration. Students should use the form provided in class and posted to Blackboard, which includes the following sections:

- *Description of study: Purpose of study, Methods, Results/Findings*
- *Critical comments: Analyze the strengths & weaknesses of the research design & overall quality*
- *Critical reflections about the article: Discuss implications of the findings within your field and how this research may inform or influence you in your future education research endeavors.*

Your empirical research article evaluations should be submitted electronically to Blackboard by the dates indicated in the Class Schedule. Please also bring a copy of the article and the form to class for small group discussion.

## 3. Human Subjects Online CITI Training (10%)

Students will complete Mandatory Training for Persons Conducting Research Using Human Subjects. **For this course, you will be required to complete the Basic Course AND one additional 'optional' module related to your area of interest.**

- This online training module can be accessed at <http://www.citiprogram.org>. (You must complete the required basic course before the optional modules are available).
- Specific directions for how to log on can be found at the GMU Office of Research Subject Protection website: <http://oria.gmu.edu/research-with-humans-or-animals/institutional-review-board/human-subjects-training/>
- You should save a pdf copy of your completion certificate (or take a screenshot and paste into a document), and submit a copy to Blackboard when you complete the training. See the Class Schedule in the syllabus for the due date for verification of completion of CITI training.

## 4. Quantitative & Qualitative Research Proposals (50%)

Students will write two different method sections replicating and extending previous research studies. Each method section will be written in APA format (see sample paper on pp 41-59 of the APA manual) and contain relevant sections specific to each type of research design. One will be a **quantitative intervention research** proposal; one will be a **qualitative research** proposal. Submit these assignments electronically via Blackboard by the due dates indicated in the Class Schedule.

### ***Quantitative Proposal Requirements***

- Introduction & Literature Review
  - Introduce topic & significance
  - Statement of purpose and research questions. This section should include a relevant literature review to demonstrate a basic level of knowledge of the research that has already been accomplished in the field of interest. If you are replicating & extending a previous study, be sure to describe the original work. A rough estimate of number of references required for your literature review would be 6-8, but more may be needed to establish the research questions.
- Methods
  - Research Design
  - Participants (when applicable, should include setting, subjects & sampling procedures)
  - Measures
  - Intervention (when applicable, should include control/alternate treatment)
  - Procedures (when applicable, should include study procedures, data collection procedures, scoring procedures, fidelity of treatment procedures.)
  - Ethical considerations
  - Proposed Preliminary Data Analyses
- APA Style References

**Qualitative Proposal Requirements:**

- Introduction & Literature Review
  - Introduce topic & significance
  - Statement of purpose and research questions or objectives. This section should include a relevant literature review to demonstrate a basic level of knowledge of the research that has already been accomplished in the field of interest. If you are replicating & extending a previous study, be sure to describe the original work. A rough estimate of number of references required for your literature review would be 6-8, but more may be needed to establish the research questions.
- Method
  - Research design
  - Participants (should include sampling procedures)
  - Data Sources (when applicable, should include instrumentation)
  - Procedures (proposed data collection process—this heading is sometimes combined with Data Sources in qualitative research)
  - Ethical Considerations
  - Proposed Preliminary Data Analyses
- References

**5. Poster Presentation (10%)**

As a culminating activity each student will create a poster presentation and handout of one of the proposals (above). Each student will present their poster during class at the end of the semester. Specific directions for creating the poster will be provided on Blackboard.

**Grading Scale**

<b>Grade</b>	<b>Grading</b>	<b>Graduate Course Standard</b>
A+	100	Satisfactory / Passing
A	94-99	Satisfactory / Passing
A-	90-93	Satisfactory / Passing
B+	85-89	Satisfactory / Passing
B	80-84	Satisfactory / Passing
C	70-79	Does not meet requirements of the Graduate School of Education
F	<69	Does not meet requirements of the Graduate School of Education

## GMU Policies and Resources for students

- a. Students must adhere to the guidelines of the George Mason University Honor Code.  
[See <http://oai.gmu.edu/the-mason-honor-code/>]
- b. Students must follow the university policy for Responsible Use of Computing.  
[See <http://universitypolicy.gmu.edu/policies/responsible-use-of-computing/>]
- c. Students are responsible for the content of university communications sent to their George Mason University email account and are required to activate their account and check it regularly. **All communication from the university, college, school, and program will be sent to students solely through their Mason email account.**
- d. The George Mason University Counseling and Psychological Services (CAPS) staff consists of professional counseling and clinical psychologists, social workers, and counselors who offer a wide range of services (e.g., individual and group counseling, workshops and outreach programs) to enhance students' personal experience and academic performance  
[See <http://caps.gmu.edu/>].
- e. Students with disabilities who seek accommodations in a course must be registered with the George Mason University Office of Disability Services (ODS) and inform their instructor, in writing, at the beginning of the semester.  
[See <http://ods.gmu.edu/>].
- f. Students must follow the university policy stating that all sound emitting devices shall be turned off during class unless otherwise authorized by the instructor.
- g. The George Mason University Writing Center staff provides a variety of resources and services (e.g., tutoring, workshops, writing guides, handbooks) intended to support students as they work to construct and share knowledge through writing.  
[See <http://writingcenter.gmu.edu/>]

## Professional Dispositions

Students are expected to exhibit professional behaviors and dispositions at all times.

## Core Values Commitment

The College of Education & Human Development is committed to collaboration, ethical leadership, innovation, research-based practice, and social justice. Students are expected to adhere to these principles:

<http://cehd.gmu.edu/values/>



For additional information on the College of Education and Human Development, Graduate School of Education, please visit our website [See <http://gse.gmu.edu/> ]

**Proposed Class Schedule:**

<b>Date</b>	<b>Class Topic</b>	<p align="center"><b>Readings &amp; Assignments due for class date</b>  <i>J/C = Johnson &amp; Christensen text    A/S = Alvesson &amp; Sandberg text</i>  <i>Readings marked (Bb) are available on Blackboard</i></p>
<b>Jan. 21 Week 1</b>	Course Overview, syllabus, purposes & uses of education research; accessing academic literature	Readings due for class this week: <ul style="list-style-type: none"> <li>• J/C chapters 1 (Bb) &amp; 22</li> </ul> <p><b>Review syllabus before class, bring questions to class</b></p>
<b>Jan 28 Week 2</b>	Research basics, types of education research; Interesting research questions; APA style	Readings due for class this week: <ul style="list-style-type: none"> <li>• APA Manual chapter 1</li> <li>• J/C chapter 2</li> <li>• A/S chapter 1 &amp; 2</li> <li>• Supplemental Text: Tao of Research, p. 21-28 (Bb)</li> </ul> <p><b>Bring to class: list of research questions that are relevant to your doctoral emphasis; identify relevant literature</b></p>
<b>Feb 4 Week 3</b>	Ethics & research; Constructing research questions; evaluating research	Readings due for class this week: <ul style="list-style-type: none"> <li>• J/C chapters 6</li> <li>• A/S chapter 3 &amp; 4</li> <li>• Supplemental Text: Tao of Research, p. 31-38 (Bb)</li> </ul> <p><b>Examine CITI training info (due in Week 5)</b>  <b>Submit completed Evaluation of Empirical Research Article #1 (Quantitative Intervention Research Study) to Bb before class 2/11; Bring copy of article &amp; evaluation form to class on 2/11</b></p>
<b>Feb 11 Week 4</b>	Writing literature reviews: reviewing for a purpose	Readings due for class this week: <ul style="list-style-type: none"> <li>• J/C chapter 4</li> <li>• Randolph: Guide to writing dissertation literature reviews (Bb)</li> </ul> <p><b>Bring completed literature review chart to class for small group discussion</b></p>
<b>Feb 18 Week 5</b>	Specifying a purpose, research questions, constructing a literature review	Readings due for class this week: <ul style="list-style-type: none"> <li>• A/S chapters 5 &amp; 6</li> <li>• J/C chapters 5</li> <li>• Sample research study-linked on Bb</li> </ul> <p><b>Due to Blackboard before class on 2/18:</b>  <b>Submit verification of Human Subject Online CITI Training certification</b></p>
<b>Feb 25 Week 6</b>	Writing your research proposal, critiquing research proposals	<p><b>CLASS WILL MEET ONLINE THIS WEEK</b>—see Blackboard module</p> Readings due for this week: <ul style="list-style-type: none"> <li>• Review J/C chapters 5 &amp; 22</li> <li>• Sample research study-linked on Bb</li> </ul> <p><b>Share Draft of Quantitative Research Proposal in online Critical Friend Group by Wed. 2/25, 4:30 pm;</b>  <b>Provide feedback to peer before midnight on 2/25</b>  <b>Submit edited draft to instructor via Bb by Sunday, 3/1, 11:59 pm</b></p>
<b>Mar 4 Week 7</b>	Measurement & Assessment; Data Collection Methods	Readings due for class this week: <ul style="list-style-type: none"> <li>• J/C chapters 7, 8 &amp; 9</li> <li>• Sample research study-linked on Bb</li> </ul>

<b>Mar 11 Week 8</b>	<b><i>Spring Break: No class meeting</i></b>	
<b>Mar 18 Week 9</b>	Sampling & Validity of research; Quantitative vs. Qualitative Research Methods	Readings due for class this week: <ul style="list-style-type: none"> <li>• J/C chapters 10 &amp; 11</li> <li>• Sample research study-linked on Bb</li> </ul> <b><i>Submit completed Evaluation of Empirical Research Article #2 (Qualitative Research Study) to Bb before class on 3/18</i></b> <b><i>Bring copy of article &amp; evaluation form to class on 3/18</i></b>
<b>Mar 25 Week 10</b>	Selecting a Quantitative Research Method	Readings due for class this week: <ul style="list-style-type: none"> <li>• J/C chapters 12, 13 &amp; 14</li> <li>• Sample research study-linked on Bb</li> <li>• Supplemental Text: Vickers p. 4-11 (Bb)</li> </ul>
<b>Apr 1 Week 11</b>	Selecting a Qualitative Research Method	Readings due for class this week: <ul style="list-style-type: none"> <li>• J/C chapters 15, 16, 17, &amp; 18</li> </ul> <b><i>Final Quantitative Research Proposal due to Instructor via Bb by 11:59 pm on Saturday, 4/4</i></b>
<b>Apr 8 Week 12</b>	Collecting, Analyzing, Interpreting Quantitative Data	Readings due for class this week: <ul style="list-style-type: none"> <li>• J/C chapters 19 &amp; 20</li> </ul>
<b>Apr 15 Week 13</b>	Data Analysis: Qualitative	Readings due for class this week: <ul style="list-style-type: none"> <li>• J/C chapter 21</li> </ul> <b><i>Bring Draft of Qualitative Research Proposal to class for peer &amp; instructor feedback</i></b>
<b>Apr 22 Week 14</b>	Mixed Methods Research; Presentation of research	Readings due for class this week: <ul style="list-style-type: none"> <li>• J/C chapter 3</li> <li>• Sample research study-linked on Bb</li> </ul>
<b>Apr 29 Week 15</b>	Summary & synthesis: What have we learned, where do we go from here?;	Readings due for class this week: <ul style="list-style-type: none"> <li>• A/S chapter 7 &amp; 8</li> </ul> <b><i>Qualitative Research Proposal due to Instructor via Bb by 11:59 pm on Sunday, 5/3</i></b>
<b>May 6 Week 16</b>	Poster Presentations	<i>Final Exam Date: Poster Presentation due in lieu of exam</i> <b><i>Final Course Evaluations (completed in class)</i></b> <b><i>Poster presentation &amp; handout due in class on 5/6</i></b>

## Assessment Rubrics:

### Rubric for Participation & Professionalism

- **Exemplary (18-20 points):** The student attends all classes, is on time, completes all weekly readings and brings required materials to class. The student follows outlined procedures in case of absence; the student actively participates and supports the members of the learning group and the members of the class. Student contributes meaningfully to all Blackboard discussion board posts.
- **Adequate (16-17 points):** The student attends all classes, is on time, completes most weekly readings and brings required materials to class. The student follows outlined procedures in case of absence; the student makes active contributions to the learning group and class. Student contributes to Blackboard discussion board posts.
- **Marginal (14-15 points):** The student is on time, completes most weekly readings and brings required materials to class. The student attends all classes and if an absence occurs, notifies the instructor and completes any missed activities or assignments; the student participates in most group and class discussions. Student contributes to most Blackboard discussion board posts.
- **Inadequate (13 or fewer points):** The student is chronically late for class. Absences are not documented by following the procedures outlined in this section of the syllabus. The student is unprepared for class and does not actively participate in in-class and Blackboard discussions. The student may fail to exhibit professional behavior and dispositions. **Excessive absences may result in additional penalties and potential withdrawal from class**

### Rubric for Evaluation of Empirical Research articles

- **Adequate evaluation (5 point):** Evaluation is thorough, thoughtful, correctly done, submitted to Blackboard on time and brought to class for small group discussion.
- **Marginal evaluation (3 points):** Evaluation is carelessly prepared, not thoughtful, or incomplete.
- **Inadequate evaluation (2 or fewer points):** Evaluation is poorly done and/or is not submitted on time.

### Rubric for Human Subject online CITI Training

- **Adequate evaluation (10 points):** Successful completion of online BASIC and one supplemental module (related to conducting research in schools or your research interest area) on time.
- **Marginal evaluation (5 points):** Successful completion of online BASIC module; supplemental module may be missing. Verification of CITI Training (BASIC module and supplemental module) is submitted after due date.
- **Inadequate (4 or fewer points):** Unsuccessful completion of online BASIC or supplemental module or late in submitting partial verification of CITI training.

### Rubric for Quantitative & Qualitative Research Proposals

- **Exemplary paper (23-25 points):** Appropriate topic, thorough and thoughtful purpose and research questions with appropriate study cited for replication and extension, appropriate and clearly described research design, participants, materials, data sources, implementation procedures, and careful brief description of data analyses. Good writing style, free of mechanical or stylistic errors, appropriate use of APA format. Draft was submitted to Blackboard on time and brought to class for small group feedback.
- **Adequate paper (20-22 points):** Good overall paper, lacking in one or two of the criteria for an exemplary paper. Not entirely reflective or thoughtful, or minor writing style or APA format errors may be present. Draft was submitted to Blackboard on time and brought to class for small group feedback.
- **Marginal paper (17-19 points):** Overall, acceptable but with one or more significant problems. Contains some useful information, but may have substantial problems with evaluation, writing style



or APA format, or unclear or inappropriate description of implementation of project. Draft may have been submitted late or not brought to class for small group feedback.

- **Inadequate paper (1-16 points):** Paper with substantial problems in important areas such as writing, proposed implementation of intervention, procedures for evaluation of results, or overall thoughtfulness. Contains little or no information of value to field of education. Draft may not have been submitted.
- **Unacceptable/no paper (0 points):** Paper with no value whatsoever relative to the assignment, or no paper turned in at all. May describe a project of no value that was not approved for this assignment.

### **Rubric for Presentation**

- **Exemplary presentation (10 points):** Keeps within the time limits; reflects poise, clarity, knowledge and interest in the content being presented; reflects a high level of preparation; make effective use of overheads, handouts, demonstrations; describes very clearly the treatment(s) under consideration; keeps the audience engaged; provides information of interest and value to audience.
- **Adequate presentation (8-9 points):** Good overall presentation, but may be lacking in one or two of the criteria specified in exemplary response. May seem a little less polished or prepared, may be vague in some place, or may fail to completely engage the audience.
- **Marginal presentation (6-7 points):** Presentation provides relevant information, but demonstrates only a limited understanding of the topic or project. Style, handouts, or visual aids may be less than inadequate.
- **Inadequate presentation (1-5 points):** Weak overall presentation that reflects very little knowledge of topic or project. May appear very poorly prepared, or may not have followed directions. Handouts or visual aids may be inadequate or lacking.
- **Unacceptable/no presentation (0 points):** Completely unsatisfactory presentation, with no reasonable reference to topic or project; or no presentation made.