

**George Mason University**  
**College of Education and Human Development**  
**GRADUATE SCHOOL OF EDUCATION**

**EDRS 810: PROBLEMS AND METHODS IN EDUCATIONAL RESEARCH**  
**(3 CREDITS) SPRING 2015**

Wednesdays / 4:30-7:10 / Innovation 203-- Fairfax Campus

**Faculty**

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**Prerequisites/Corequisites**

Admission to the Ph.D. program or permission of instructor.

**University Catalog Course Description**

Advanced course in interpreting and applying education research methods. Emphasizes comparison of alternative philosophies of research, ways of formulating questions and hypotheses, research plans, and analysis procedures. Students evaluate existing studies, and investigate a range of research approaches.

**Course Delivery Method**

This course consists of lectures, large group and online formats, in class and individual or group activities, and individual assignments.

**Learner Outcomes or 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.

### Required Texts

Johnson, R. B., & Christensen, L. (2014). *Educational Research: Quantitative, Qualitative, & Mixed Approaches* (5<sup>th</sup> ed.). Los Angeles, CA: Sage.

**Note:** This text has a Companion Website: <http://www.sagepub.com/bjohnson5e/main.htm> with study materials, practice quizzes, and other resources.

American Psychological Association. (2010). *Publication manual of the American Psychological Association* (6th ed.). Washington, DC: Author.

### 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 are responsible for accessing the materials (for printed copies, etc.) prior to class. In addition, you will need to login to Blackboard to upload assignments for the course.

Access Blackboard through **myMason**:

- Go to the GMU homepage: <http://www.gmu.edu/>
- Click on MyMason on the top of the page.
- 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.

### Writing Support

1. Library Support: Mason Libraries’ Liaison Librarians provide George Mason University students, faculty, and staff specialized assistance in their areas of expertise, supporting the academic programs on Mason’s Fairfax, Arlington and Prince William campuses (<http://library.gmu.edu/research/liais.html>). Among other services, Liaison Librarians
  - provide research assistance in person, by phone, e-mail and IM
  - offer scheduled, subject-focused research consultations for students and faculty
2. Writing Support: GMU has a free Writing Center available to students that provides one-to-one assistance in writing development (<http://writingcenter.gmu.edu>). (This is NOT an editing service). According to their mission statement:

*The George Mason University Writing Center is committed to supporting writers in the Mason community as they work to construct and share knowledge through writing. We aim to achieve this through providing writers with the opportunity to test out ideas with a tutorial staff comprised of trustworthy and attentive readers and listeners. We believe that the best writing support is achieved with tutors who listen and ask questions in order to foster a writer’s own curiosity. We believe that achieving a strong piece of writing takes time, and therefore requires multiple drafts. As such, we aim to support writers from the beginning exploratory stages of the writing process up through a final, well-presented idea in a final version.*

## Course Requirements

It is expected that each of you will:

- (1) Read all assigned materials for the course.
- (2) Attend and be on time for each class session and participate in classroom activities that reflect critical reading of materials. (If an emergency occurs please notify the instructor in advance.)
- (3) Complete the online Mandatory Training for Person's Conducting Research with Human Subjects.
- (4) Complete homework assignments, including online tests and submit results to professor prior to class meeting.
- (5) Write two method sections in a professional manner following guidelines stated in the Publication Manual of the American Psychological Association: one quantitative intervention study and one qualitative research study.
- (6) Write and submit a complete human subject proposal to match the quantitative intervention study method section assignment.
- (7) Present one method section to the class.

## Course Performance Evaluation

Students are expected to submit all assignments on time in the manner outlined by the instructor (e.g., Blackboard, Tk20, hard copy).

## ASSIGNMENTS

### Participation & Blackboard Posts

Students are asked to attend all classes on time, be prepared, post to Blackboard discussion board, and actively participate and support the members of the class learning community.

### Online Chapter Quizzes

Students are asked to complete and submit online quizzes on each week's assigned readings from the course textbook. (Be sure to complete all sections of weekly quizzes, possibly including multiple choice, true-false, and/or matching.) Quizzes for each week can be found at the textbook's Companion Website: <http://www.sagepub.com/bjohnson5e/main.htm> Turn in a hardcopy of the first page of each quiz (this contains your name, score, and date you took the quiz).

### HSRB CITI Training Module Completion

GMU requires a Mandatory Training for Persons Conducting Research Using Human Subjects. Seven learner modules in the Basic Course are required prior to applying to conduct any research at Mason 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://research.gmu.edu/ORSP/HumanTraining.html>

Turn in a hard copy only (this will be returned to you for your records).

GMU also requires that all researchers (including student researchers) submit a research application to the office of Human Subject Protections PRIOR to conducting research. For this course, you should review the application form for class discussion.

- Application forms and guidelines can be found at the GMU Office of Research Subject Protection website: <http://research.gmu.edu/ORSP/HumanFormsAndInstructions.html>

### **Quantitative Research Proposal (*paper*)**

Students will write a research proposal (introduction, literature review, and method sections). This proposal should build on existing research and may replicate and extend previous research studies. The proposal will contain relevant sections specific to the research design (see sample paper on Blackboard as well as pp 41-59 of the APA manual). Organizational headings may vary depending on your research design and the specifics of your individual study. Be sure to refer to the APA manual as well as similar work in your field to help you determine what is critical to include in your own proposal. Also refer to the APA manual for how to format headings and citations appropriately. Turn in a hard copy and place an electronic version on the relevant assignment box Blackboard site.

#### *Quantitative Proposal Requirements:*

- **Introduction & Literature Review**
  - Brief introduction to the topic & literature review. (If you are replicating and extending a previous study, you should be sure to describe the original work).
  - Statement of purpose and research questions.
- **Method (5-6 pages)**
  - **Research Design**
  - **Participants** (when applicable, should include setting, subjects, interventionists)
  - **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)
  - **Proposed Preliminary Data Analyses**
- **References**

### **Qualitative Research Proposal (*Presentation*)**

Your qualitative proposal will be presented in a presentation format. In addition, a handout should be prepared for everyone in the class. Further directions will be provided in class.

#### *Qualitative Proposal Requirements:*

- **Purpose Statement** (Statement of purpose and 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)
  - **Proposed Preliminary Data Analyses**

## **COURSE EVALUATION**

### **Rubric for Participation & Blackboard Posts (10%)**

- **Exemplary (A):** The student attends all or almost classes (student may miss one class with notice to instructor), is always on time, and is prepared (including posting in time to Blackboard); the student completes field based activity; and the student actively participates and supports the members of the learning group and the class.

- **Marginal (C):** The student is usually on time, usually prepared for class, and participates in group and class discussions, but may miss participation points due to absence (two absences), failure to prepare for a class activity (such as posting for one Blackboard activity), or failure to complete the field based activity.
- **Inadequate (0 points):** The student is frequently late for class. Student misses numerous participation opportunities due to absence (3 or more) or failure to prepare for class activities (such as posting for two or more Blackboard activities). Instructor is not notified of absences. The student does not actively participate in discussions. The student may fail to exhibit professional behavior and dispositions. **Excessive absences can result in additional penalties and potential withdrawal from class.**

### **Evaluation of Online Chapter Quizzes (20%)**

Online Quizzes are expected to be submitted on time with a score of 80% or greater. Points will be deducted in the following manner for tests that received a score lower than 80%, are late, or are not submitted.

- **Pass:** All assigned chapter quizzes submitted on time with a score of 80% or greater.
- **Fail:** Three or more assigned chapter quizzes missing or with a score <80%.

### **Rubric for Quantitative Research Proposal (30%)**

- **Exemplary paper (A):** Establishes an important educational problem that needs to be addressed, a logical presentation of information that leads to the purpose statement of the paper. Important concepts are defined in this section as well as any background information needed to support search procedures in the methodology. Appropriate topic, thorough and thoughtful review of appropriate studies (including a study that is appropriate for replication and extension if applicable), a clearly stated purpose statement, and appropriate research questions that are consistent with the quantitative research methodology. 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.
- **Adequate paper (B):** 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.
- **Marginal paper (C):** 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.
- **Inadequate paper (D):** 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.
- **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 HSRB CITI Training Module (10%)**

#### CITI Training Module

- **Pass:** Successful completion of online BASIC and one supplemental module (related to conducting research in schools or your research interest area) on time.

- **Fail:** Unsuccessful completion of online BASIC or supplemental module or late in completing assignment.

**Rubric for Qualitative Proposal Presentation (30%)**

- **Exemplary presentation (A):** Appropriate topic, a clearly stated purpose statement, and appropriate research questions that are consistent with the qualitative research methodology. Appropriate and clearly described research design, participants, materials, data sources, implementation procedures, and careful brief description of data analyses. Reflects poise, clarity, knowledge and interest in the content being presented; reflects a high level of preparation; make effective use of visuals, handouts, demonstrations; keeps the audience engaged; provides information of interest and value to audience.
- **Adequate presentation (B):** 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 (C):** 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 (D):** 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.

**GRADING**

1. Participation & Blackboard Posts	10 points
2. Chapter Quizzes	20 points
3. Quantitative Research Proposal Paper	30 points
4. CITI Training	10 points
5. Qualitative Research Proposal Presentation	30 points
<b>TOTAL</b>	<b>100 POINTS</b>

Grading Scale:

- A = 90-100%
- B = 80-89%
- C = 70-79%
- F = <79%

**Professional Dispositions**

See <https://cehd.gmu.edu/students/polices-procedures/>

**Class Schedule**

<b>Date</b>	<b>Class Topic &amp; Reading Assignments</b>	<b>Due Dates</b>
8/30/17	<ul style="list-style-type: none"> <li>• <u>Chapter 1:</u> Introduction to Educational Research</li> <li>• <u>Chapter 2:</u> Quantitative, Qualitative, and Mixed Research</li> </ul>	



9/6/17	<ul style="list-style-type: none"> <li>• <u>Chapter 10</u>: Sampling in Quantitative, Qualitative, and Mixed Research (pp. 247-269)</li> <li>• <u>Chapter 7</u>: Standardized Measurement and Assessment</li> <li>• <u>Chapter 9</u>: Six Major Methods of Data Collection</li> <li>• <u>Chapter 11</u>: Validity of Research Results in Quantitative, Qualitative, and Mixed Research (pp. 277-298)</li> </ul>	
9/13/17	<ul style="list-style-type: none"> <li>• <u>Chapter 4</u>: How to Review the Literature and Develop Research Questions</li> <li>• <u>Chapter 5</u>: How to Write a Research Proposal</li> </ul> <p><b>Guest Speaker:</b> Anne Driscoll, Education Librarian</p>	QUIZ (Chapters 1, 2, 7, 9, 4, 5)
9/20/17	<ul style="list-style-type: none"> <li>• <u>Chapter 14</u>: Non-Experimental Quantitative Research</li> <li>• <u>Chapter 8</u>: How to Construct a Questionnaire</li> </ul>	
9/27/17	<p><b>ONLINE CLASS</b></p> <ul style="list-style-type: none"> <li>• CITI Module Training</li> <li>• <u>Chapter 6</u>: Research Ethics</li> </ul>	
10/4/17	<ul style="list-style-type: none"> <li>• <u>Chapter 12</u>: Experimental Research: Weak and Strong Designs</li> <li>• <u>Chapter 13</u>: Experimental Research: Quasi and Single-Case Designs</li> </ul>	<ul style="list-style-type: none"> <li>• CITI Completion Certificates</li> <li>• DRAFT Quantitative Research Proposal (Intro)</li> </ul>
10/11/17	<ul style="list-style-type: none"> <li>• <u>Chapter 19</u>: Descriptive Statistics</li> <li>• <u>Chapter 20</u>: Inferential Statistics</li> <li>• <u>Chapter 22</u>: How to Prepare a Research Report and Use APA Style Guidelines</li> </ul>	<ul style="list-style-type: none"> <li>• QUIZ (Chapters 14, 8, 12, 13, 19, 20, 22)</li> </ul>
10/18/17	<b>Writing Day—details TBA</b>	
10/25/17	<ul style="list-style-type: none"> <li>• <u>Chapter 10</u>: Sampling in Quantitative, Qualitative, and Mixed Research (pp. 269-276)</li> <li>• <u>Chapter 9</u>: Six Major Methods of Data Collection (pp. 233-237)</li> <li>• <u>Chapter 11</u>: Validity of Research Results in Quantitative, Qualitative, and Mixed Research (pp. 298-316)</li> </ul>	<ul style="list-style-type: none"> <li>• DRAFT Quantitative Research Proposal (Intro &amp; Methods)</li> </ul>
11/1/17	<ul style="list-style-type: none"> <li>• <u>Chapter 15</u>: Narrative Inquiry and Case Study Research</li> <li>• <u>Chapter 16</u>: Phenomenology, Ethnography, and Grounded Theory</li> <li>• <u>Chapter 18</u>: Mixed Research</li> </ul>	<ul style="list-style-type: none"> <li>• Quantitative Research Proposal (Intro &amp; Methods)</li> </ul>
11/8/17	<b>CLASS ACTIVITY — details TBA</b>	
11/15/17	<ul style="list-style-type: none"> <li>• <u>Chapter 21</u>: Data Analysis in Qualitative and Mixed Research</li> </ul>	<ul style="list-style-type: none"> <li>• QUIZ (Chapters 10, 11, 15, 16, 21, 18)</li> </ul>

11/22/17	<b>THANKSGIVING—No Class</b>	
11/29/17	• <u>Chapter 3</u> : Action Research For Lifelong Learning	• DRAFT Qualitative Research Presentation
12/6/17	<b>QUALITATIVE RESEARCH PROPOSAL PRESENTATIONS &amp; CELEBRATION</b>	
12/13/17	<b>CONFERENCES</b>	

Note: Faculty reserves the right to alter the schedule as necessary, with notification to students.

### **Core Values Commitment**

The College of Education and 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/>.

### **GMU Policies and Resources for Students**

#### *Policies*

- Students must adhere to the guidelines of the Mason Honor Code (see <http://oai.gmu.edu/the-mason-honor-code/>).
- Students must follow the university policy for Responsible Use of Computing (see <http://universitypolicy.gmu.edu/policies/responsible-use-of-computing/>).
- Students are responsible for the content of university communications sent to their Mason 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.
- Students with disabilities who seek accommodations in a course must be registered with George Mason University Disability Services. Approved accommodations will begin at the time the written letter from Disability Services is received by the instructor (see <http://ods.gmu.edu/>).
- Students must follow the university policy stating that all sound emitting devices shall be silenced during class unless otherwise authorized by the instructor.

#### *Campus Resources*

- Support for submission of assignments to Tk20 should be directed to [tk20help@gmu.edu](mailto:tk20help@gmu.edu) or <https://cehd.gmu.edu/aero/tk20>. Questions or concerns regarding use of Blackboard should be directed to <http://coursessupport.gmu.edu/>.
- For information on student support resources on campus, see <https://ctfe.gmu.edu/teaching/student-support-resources-on-campus>

**For additional information on the College of Education and Human Development, please visit our website <https://cehd.gmu.edu/students/> .**