

**George Mason University**  
**College of Education and Human Development**  
**Graduate School of Education**  
**Literacy Leadership for Diverse Schools Program**

EDRS590 6D1 – Education Research  
3 Credits, Spring 2018  
Mondays, 5:00pm – 7:40pm  
FCPS Gatehouse Administration Center  
8115 Gatehouse Road  
Falls Church, VA 22042  
Room 4051

**Faculty**

Name: Michael Mazarella, Ph.D.  
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**Prerequisites/Corequisites:** None

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**University Catalog Course Description**

Develops skills, insights, and understanding to perform research, with emphasis on interpreting and applying research results. Critiques, research, and uses findings in educational settings.

**Course Overview**

This introductory research course examines connections among theoretical frameworks, research questions, methods of data collection, analysis and reporting. The purpose of this course is to introduce you to an understanding of quantitative, qualitative, and mixed methods inquiry. This will involve reading about research. You will be introduced to the basics of research design, including identifying a problem, conducting a brief literature search, describing data collection and analysis, writing, and ethics. A general intent of the course is to help learners to become better consumers of research, and to understand the ways education research relates to instructional practice and school improvement.

**Course Delivery Method**

This course will be delivered using a lecture format with class discussions and small group activities. The instructor may use Microsoft classroom tools accessible via Mason's Office 365 for in class activities. Course content is available via the course website on Blackboard. The Blackboard site for the class can be accessed at: <https://mymasonportal.gmu.edu>

## **Learner Outcomes or Objectives**

Learners will begin to:

- Gain critical perspectives in order to understand the validity of education research;
- Use appropriate reference sources to locate publications relevant to a topic of their choice;
- Understand measures of central tendency and dispersion and their application to important education outcomes;
- Develop an informed perspective on issues in education that is grounded in contemporary research;
- Understand how teachers or administrators can use research to enhance instruction and inform practice;
- Use various social science perspectives as the foundation for advocacy and change; and
- Be able to apply technology to the task of conducting education research.

## **Professional Standards**

1. Candidates will demonstrate an understanding of principles and theories of learning, cognition, motivation, and development as they apply to a wide variety of contemporary learning contexts.
2. Candidates will use their knowledge, skills, and dispositions to apply principles and theories of learning, cognition, motivation, and development to analyze and develop instruction in applied settings.
3. Candidates will demonstrate an understanding of the basic concepts, principles, techniques, approaches, and ethical issues involved in educational research.
4. Candidates will use their knowledge of quantitative and qualitative research methodology to critically read and evaluate quantitative and qualitative research articles.
5. Candidates will use their knowledge of quantitative and qualitative research methodology to develop a research proposal and conduct research.
6. Candidates will demonstrate critical thinking, oral presentation, technological, and writing skills as they are used in the profession. These include:
  - Knowledge and use of APA style
  - Oral presentations
  - Poster presentations
  - Article abstracts
  - Research proposals
  - Literature reviews
  - Technological skills (including library/reference skills, interactive displays skills, data analysis skills)

## **Required Text**

McMillan, J. H. (2016). *Fundamentals of educational research* (7th ed.). Boston, MA: Pearson.

## **Recommended Text**

American Psychological Association. (2009). *Publication manual of the American Psychological Association* (6th ed.). Washington, DC: APA.

## Course Performance Evaluation

Students are expected to submit all assignments on time via Blackboard unless specified otherwise by the instructor.

Timely submission of assignments is expected. Deadlines for assignments are usually set at 5:00 pm on the due date (i.e. before class begins)

Technology Policy: When you are using cell phones, laptops, etc., please be respectful and do not engage in activities that are unrelated to class.

### A. HSRB CITI Training Module Completion (10%)

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**.

- 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-reviewboard/human-subjectstraining/>
- \*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.

### B. Critique of Quantitative Empirical Research Article (10%)\*\*

Students will write a critique of one quantitative intervention study. The critique should include a summary of the following parts:

- (1) purpose, methods (sampling, design, measures, reliability and validity, data analysis), and results;
- (2) critical comments on the strengths and limitations of the study design and interpretation of results.

***\*\* The quantitative article critique is a Performance-Based Assessment. See end of syllabus for rubric.***

### **C. Critique of Qualitative Empirical Research Article (10%)**

Students will write a critique of one qualitative intervention study. The critique should include a summary of the following parts:

- (1) purpose, methods, and results;
- (2) critical comments on the strengths and limitations of the study design and interpretation of results.

### **D. Research Proposal (paper) (40%)**

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 pages 41-59 of the APA manual). Organizational headings may vary depending on your research design and the specifics of your individual study. However, address all aspects of the rubric that will be shared in class. Be sure to refer to the APA 6th edition guidelines 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. There are checkpoints along the way where drafts should be submitted for feedback. While these drafts will not be graded, you will receive points for timely submission. The instructor will provide feedback on drafts and expects students to track changes to show revisions. The final draft will be marked for 40% of the course grade. All drafts should be submitted electronically on Blackboard.

**\*\*The instructor recommends seeking the services of The Writing Center on campus which offers FREE writing support to students.**

*Proposal Requirements:*

- a) **Introduction & Literature Review**
  - i) Brief introduction to the topic
  - ii) Literature review (If you are replicating and extending a previous study, you should be sure to describe the original work)
  - iii) Statement of purpose and research questions
- b) **Method**
  - i) Research Design
  - ii) Participants (when applicable, should include setting, subjects, interventionists)
  - iii) Measures of Intervention (when applicable, should include control/alternate treatment)
  - iv) Procedures (when applicable, should include study procedures, data collection procedures, scoring procedures, fidelity of treatment procedures)
  - v) Ethical Considerations
  - vi) Proposed Preliminary Data Analyses
- c) **References** (APA formatted citations of at least 5 empirical research articles)

### **E. Mid-Term Exam (20%)**

This will be a knowledge test of educational research concepts. It will consist of both multiple choice and short answer questions.

### **F. In Class Assignment, Participation, Attendance (10%)**

Students will be asked to work individually or in groups of 2-3 students in class throughout the semester. Attendance, punctuality, preparation, and active contribution to small and large group efforts are essential. These elements will account for 10% 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.

### **Grading Criteria**

Percent	Letter Grade
98-100	A+
93-97	A
90-92	A-
88-89	B+
83-87	B
80-82	B-
70-79	C
Below 70	F

### **Other Policies**

#### *Late Assignments*

Late assignments will not be accepted unless there is an exceptional reason for the delay that was communicated to the instructor in advance of the deadline.

#### **Professional Dispositions**

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

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

#### **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://catalog.gmu.edu/policies/honor-code-system/>).
- 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://coursesupport.gmu.edu/>.
- For information on student support resources on campus, see <https://ctfe.gmu.edu/teaching/student-support-resources-on-campus>
- The Writing Center: <http://writingcenter.gmu.edu/>

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

## Class Schedule

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

**Note: Class will be held on 3/12 despite being GMU Spring Break.**

Date	Topic	Readings	Due
1/22	Introduction to Class Overview of Types of Research	McMillan Ch. 1	
1/29	Searching & Reviewing Related Literature	McMillan Ch. 4	<ul style="list-style-type: none"> <li>• <i>Examine</i> CITI Training Information</li> </ul>
2/5	Research Problems & Questions Variables Hypotheses	McMillan Ch. 3	
2/12	Ethics Overview of CITI Training	McMillan Ch. 2	<ul style="list-style-type: none"> <li>• <b>Submit:</b> Draft of Research Questions, Variables, and Hypotheses (to be used in Research Proposal)</li> </ul>
2/19	Participants & Sampling	McMillan Ch. 5	
2/26	Measurement & Statistics	McMillan Ch. 6	<ul style="list-style-type: none"> <li>• <b>Submit:</b> Draft of description of proposed sample (to be used in Research Proposal)</li> </ul>
3/5	Validity & Reliability	McMillan Ch. 7	<ul style="list-style-type: none"> <li>• <b>Submit:</b> Summaries of <i>at least</i> 5 articles (to be used for literature review in Research Proposal)</li> </ul>
3/12	Catch-up (if necessary) Review for Midterm		<ul style="list-style-type: none"> <li>• <i>Study</i> for Midterm!</li> </ul>
3/19	<b>MIDTERM EXAM</b>		
3/26	<b>No Class- FCPS Spring Break!</b>		
4/2	Quantitative Design	McMillan Ch. 8&9	<ul style="list-style-type: none"> <li>• <b>Submit:</b> CITI Training</li> </ul>
4/9	Quantitative Data Analysis	McMillan Ch. 10	
4/16	Qualitative Design	McMillan Ch. 11	<ul style="list-style-type: none"> <li>• <b>Submit:</b> Quantitative Article Critique</li> </ul>
4/23	Qualitative Data Analysis	McMillan Ch. 12	<ul style="list-style-type: none"> <li>• <b>Submit:</b> Draft of Research Design (to be used in Research Proposal)</li> </ul>
4/30	Mixed Methods Conclusion	McMillan Ch. 13&15	<ul style="list-style-type: none"> <li>• <b>Submit:</b> Qualitative Article Critique</li> </ul>
5/7	<b>No Class</b> Individual Meetings by Appointment		<ul style="list-style-type: none"> <li>• <b>Submit: Final Research Proposal due 10:00pm on 5/13</b></li> </ul>

# EDRS 590 Quantitative Article Critique

	Does Not Meet Standards	Approaching Standards	Meets Standards	Exceeds Standards	Score/Level
<p>Writing and Mechanics</p> <p>Program Standard 6</p>	<p>Writing has significant stylistic, grammatical or organizational issues AND there are significant errors in APA usage.</p>	<p>Writing has stylistic, grammatical, or organizational issues OR there are significant errors in APA usage.</p>	<p>Writing is clear and APA style has minor or no errors.</p>	<p>Excellent writing APA style has very minor or no errors</p>	
<p><b>Standards</b>  <b>VA- George Mason University non-SPA Educational Psychology (2014)</b>  <b>Standard: 6.</b> Candidates will demonstrated critical thinking, oral presentation, technological, and writing skills as they are used in the profession. These include: Knowledge and use of APA style; Oral presentations; Poster presentations; Article abstracts; Research proposals; Literature reviews; Technological skills (including library/reference skills, interactive displays skills, data analysis)</p>					
<p>Description and summary of how components of research design are reflected in the article.</p> <p>Program Standard 3</p>	<p>There are many inaccuracies in how components of research design are addressed.</p>	<p>There are some inaccuracies in how components of research design are addressed,</p>	<p>Each component of research is addressed accurately.</p>	<p>Each component of research is treated fully and accurately</p>	
<p><b>Standards</b>  <b>VA- George Mason University non-SPA Educational Psychology (2014)</b>  <b>Standard: 3.</b> Candidates will demonstrate an understanding of the basic concepts, principles, techniques, approaches, and ethical issues involved in educational research.</p>					
<p>Identification and Analysis of Design Elements : Lit Review, Research Problem, and Methodology</p> <p>Program Standard 4</p>	<p>Does not identify or analyze design elements.</p>	<p>Identification of design elements is present, but either contains inaccuracies or is missing analyses.</p>	<p>Accurate identification of elements and some analysis of design elements.</p>	<p>Insightful analysis and accurate identification of key research design elements.</p>	
<p><b>Standards</b>  <b>VA- George Mason University non-SPA Educational Psychology (2014)</b>  <b>Standard: 4.</b> Candidates will use their knowledge of quantitative and qualitative research methodology to critically read and evaluate quantitative and qualitative research articles.</p>					
<p>Analysis of Design and Presentation of Findings</p> <p>Program Standard 4</p>	<p>The design is not addressed. There is minimal analysis of the presentation of findings.</p>	<p>The design is identified. Strengths and limitations of the presentation of findings are discussed. Claims need further</p>	<p>The design is identified and discussed. Strengths and limitations of the presentation of findings are discussed and claims are</p>	<p>Insightful accounts of the qualities, strengths and limitations of the presentation of findings and the design. Claims are</p>	



	Does Not Meet Standards	Approaching Standards	Meets Standards	Exceeds Standards	Score/Level
		explication or leave key gaps.	reasonable and meaningful.	reasonable and meaningful.	
	<b>Standards</b> <b>VA- George Mason University non-SPA Educational Psychology (2014)</b> <b>Standard: 4.</b> Candidates will use their knowledge of quantitative and qualitative research methodology to critically read and evaluate quantitative and qualitative research articles.				
Use of Evidence to support Explanations and judgments  Program Standard 4	There is minimal use evidence to support claims.	Uses evidence to support some claims.	Uses evidence to illustrate and support most claims.	Consistently uses evidence well to explicate, support and illustrate claims.	
	<b>Standards</b> <b>VA- George Mason University non-SPA Educational Psychology (2014)</b> <b>Standard: 4.</b> Candidates will use their knowledge of quantitative and qualitative research methodology to critically read and evaluate quantitative and qualitative research articles.				
Reflection and Discussion Component  Program Standard 6	There is minimal discussion or no reflection section.	Reflective component is present but is under-developed or lacks connections to analysis.	Reflections are developed and have clear connections to analysis.	Reflections are thoughtfully and fully developed with clear and meaningful connections to analysis.	
	<b>Standards</b> <b>VA- George Mason University non-SPA Educational Psychology (2014)</b> <b>Standard: 6.</b> Candidates will demonstrated critical thinking, oral presentation, technological, and writing skills as they are used in the profession. These include: Knowledge and use of APA style; Oral presentations; Poster presentations; Article abstracts; Research proposals; Literature reviews; Technological skills (including library/reference skills, interactive displays skills, data analysis)				