

George Mason University
College of Education and Human Development
Educational Psychology

EDRS 590 001 72116: Educational Research

3 Credits, Fall 2017

Wednesdays 7:20-10:00 pm

Thompson Hall, Room L019 (Fairfax Campus)

Instructor: Divya Varier, Ph.D.
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Prerequisites/Corequisites: None

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

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](#).

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.

RELATIONSHIP TO PROGRAM GOALS AND STANDARDS

Across the many courses in the Educational Psychology, a number of standards are addressed. These standards are noted below. Those emphasized most strongly in this course are in bold text.

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 Texts

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

Recommended Texts

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

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 7:15 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.

COURSE REQUIREMENTS

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-review-board/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. (see Blackboard site for specific instructions on critiquing quantitative studies).

C. 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 (noted as CP on the tentative schedule). While the content 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:

• 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

Research Design o Participants (when applicable, should include setting, subjects, interventionists)

Measures of 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

• References (at least 4 empirical research articles)

D. Mid-Term and Final Exam (30%)

Mid-term Exam: (15%) This will be a multiple choice knowledge test of educational research concepts.

Final Exam (15%) This will be a multiple choice and short answer test of application of research concepts.

E. 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 or at the earliest after the due date.

Professional Dispositions

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://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 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](#).

Class Schedule

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

Week	Date	Content	What's Due?
1	August 30, 2017	Introductions Course Overview What is Research? Overview of Types of Research	Reading: Chapter 1
2	September 6, 2017	Ethics Overview: CITI Training	Reading: Chapter 2; Tuskegee Syphilis Study
3	September 13, 2017	Literature Review	Reading: Chapter 4 CP: Research Topic, Rationale, Research Statement **Class meets in Fenwick 1014B. Bring personal computer.
4	September 20, 2017	Research Questions, Variables, and Hypotheses	Reading: Chapter 3 CP: Literature Review
5	September 27, 2017	Sampling	Reading: Chapter 5 CP: Research Questions, Variables, Research Hypothesis
6	October 4, 2017	Validity & Reliability Mid Term Review	Chapter 6: CP: Population, Sampling
7	October 11, 2017	Mid Term	CITI Training Due
8	October 18, 2017	Measurement Data Collection	Reading: Chapter 7
9	October 25, 2017	Quantitative Design -Non Experimental -Experimental	Reading: Chapter 8 & Chapter 9 CP: Measures, Reliability & Validity
10	November 1, 2017	Quantitative Data Analysis	Reading: Chapter 10
11	November 8, 2017	Qualitative Design & Data Collection, Data Analysis	Reading: Chapter 11 & Chapter 12 CP: Research Design & Data Analysis
12	November 15, 2017	Data Analysis (continued) Trustworthiness Qualitative Article Critique	Reading: Shenton (2004)
13	November 22, 2017	Thanksgiving NO CLASS	Quantitative Article Critique Due
14	November 29, 2017	Mixed Methods Designs	Reading: Chapter 13
15	December 6, 2017	Guest Lecture on Action Research: TBD Final Exam Review	Reading: Chapter 14 Final Research Proposal Due
	December 13, 2017	Final Exam	

Rubric: Quantitative Article Critique

Critique Component	Description of Standard	Does not Meet Standard 0 points	Approaching Standard 1 point	Meets Standard 2 points	Exceeds Standard 3 points	Score/Level
Description and summary of how components of research design are reflected in the article. Program Standard 3	VA- George Mason University non-SPA Educational Psychology (2014) Standard: 3. Candidates will demonstrate an understanding of the basic concepts, principles, techniques, approaches, and ethical issues involved in educational research.	There are many inaccuracies in how components of research design are addressed.	There are some inaccuracies in how components of research design are addressed	Each component of research is addressed accurately	Each component of research is treated fully and accurately	
Identification and Analysis of Design Elements : Lit Review, Research Problem, and Methodology Program Standard 4	VA- George Mason University non-SPA Educational Psychology (2014) Standard: 4. Candidates will use their knowledge of quantitative and qualitative research methodology to critically read and evaluate quantitative and qualitative research articles.	Does not identify or analyze design elements.	Identification of design elements is present, but either contains inaccuracies or is missing analyses.	Accurate identification of elements and some analysis of design elements.	Insightful analysis and accurate identification of key research design elements	
Analysis of Design and Presentation of Findings Program Standard 4	VA- George Mason University non-SPA Educational Psychology (2014) Standard: 4. Candidates will use their knowledge of quantitative and qualitative research methodology to critically read and evaluate quantitative and qualitative research articles.	The design is not addressed. There is minimal analysis of the presentation of findings.	The design is identified. Strengths and limitations of the presentation of findings are discussed. Claims need further explication or leave key gaps.	The design is identified and discussed. Strengths and limitations of the presentation of findings are discussed and claims are reasonable and meaningful.	Insightful accounts of the qualities, strengths and limitations of the presentation of findings and the design. Claims are reasonable and meaningful.	
Use of Evidence to support Explanations and judgments Program Standard 4	VA- George Mason University non-SPA Educational Psychology (2014) Standard: 4. Candidates will use their knowledge of quantitative and qualitative research methodology to critically	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	

Critique Component	Description of Standard	Does not Meet Standard 0 points	Approaching Standard 1 point	Meets Standard 2 points	Exceeds Standard 3 points	Score/Level
	read and evaluate quantitative and qualitative research articles.					
Reflection and Discussion Component Program Standard 6	VA- George Mason University non-SPA Educational Psychology (2014) Standard: 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)	There is minimal discussion or no reflection section.	Reflective component is present but is underdeveloped 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.	
Writing and Mechanics Program Standard 6	VA- George Mason University non-SPA Educational Psychology (2014) Standard: 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)	Writing has significant stylistic, grammatical or organizational issues AND there are significant errors in APA usage.	Writing has stylistic, grammatical, or organizational issues OR there are significant errors in APA usage.	Writing is clear and APA style has minor or no errors.	Writing demonstrates exceptional clarity; APA style has very minor or no errors	

