

PROBLEMS AND METHODS IN EDUCATIONAL RESEARCH

George Mason University, College of Education and Human Development
Graduate School of Education

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EDRS 810-001 CRN 72061
Class Meeting: Thompson Hall L004
Class Schedule: Mondays, 4:30-7:10

Prerequisites: Admission to PhD program, or permission of instructor.

Catalog 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. Equivalent to CTCH 710, CTCH 801 (2013-2014 Catalog).

Course Learning 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.

Professional Association Standards:

As members of the educational research community, we abide by the American Educational Research Association Code of Ethics, as well as, guidelines related to human research protections. You are to review and know:

1. the AERA Code of Ethics at http://www.aera.net/Portals/38/docs/About_AERA/CodeOfEthics%281%29.pdf
2. the AERA Endorsement of the Singapore Statement on Research Integrity at http://www.aera.net/Portals/38/docs/About_AERA/RulesandPolicies/21_Singapore%20Statement%20on%20Research%20Integrity.pdf
3. the AERA information on the Social and Behavioral Sciences Working Group on Human Research Protections at <http://www.aera.net/AboutAERA/KeyPrograms/SocialJustice/ResearchEthics/SocialandBehavioralSciencesWorkingGroup/tabid/11057/Default.aspx>
4. the AERA policies on social justice at <http://www.aera.net/AboutAERA/AERARulesPolicies/SocialJustice/tabid/10205/Default.aspx>
5. the AERA policy statements at <http://www.aera.net/AboutAERA/AERARulesPolicies/AERAPolicyStatements/tabid/10206/Default.aspx>
6. the Mason policies listed on the Office of Research Integrity & Assurance at <http://oria.gmu.edu/> and including the Ethical Conduct of Research (including Responsible Conduct of Research, Conflict of Interest, and Research Misconduct) at <http://oria.gmu.edu/ethical-conduct-of-research/> , Research with Human or Animal Subjects at <http://oria.gmu.edu/research-with-humans-or-animals/> , and Export Controls at <http://oria.gmu.edu/export-control/>
7. all of the policies and procedures on IRBNet at <http://oria.gmu.edu/irbnet/>
8. training on Human Subjects Research at <http://www.citiprogram.org> , which is an assignment described later in the syllabus.

Nature of the Course Deliver: This course consists of lectures, large group and electronic discussion, in class activities, and individual/group assignments. *All readings must be completed prior the class session* in order to take advantage of, and participation 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: www.sagepub.com/bjohnson5.e/ 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 Bb site 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 Bb to upload assignments for this course.

Course Requirements:

- (1) Read all assigned materials for the course.
- (2) Attend, be on time for each class session, and participate in classroom activities that reflect critical reading of materials.
- (3) Complete the online Mandatory Training for Persons Conducting Research with Human Subjects.*
- (4) Evaluate and write a review of one quantitative study and one qualitative study.*
- (5) Complete in class assignments and HW assignments and submit to professor prior to each class meeting.*
- (6) Write and submit a complete human subject proposal to match each of the method section assignments.*
- (7) Write two method sections: one quantitative intervention study and one qualitative research study.
- (8) Present, in a poster session, either a qualitative or quantitative research study.

The instructor reserves the right to make changes in the schedule to better suit the needs of the class.

***Late assignments will not be accepted by the instructor.** If an emergency occurs please notify the instructor in advance.

Course Evaluation:

1. In Class Assignments, Participation, and Attendance Policy: Students will be asked to work individually or in groups of 2-3 students in class assignments throughout the semester (all assignments are described on Blackboard). 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 10% of your course grade. With reference to the grading scale described later in this syllabus, you will note that this percentage is equivalent to a full letter 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. Homework Assignments: Students will work individually or in groups of 2-3 on two homework assignments (all assignments, including homework assignment 1 on APA and homework assignment 2, a brief literature review are clearly described on Blackboard).

3. Human Subjects Online Training: Students will complete Mandatory Training for Persons Conducting Research Using Human Subjects. Information is available online: <http://oria.gmu.edu/>

The training takes between two and five hours and can be accessed from: <http://www.citiprogram.org> Copy and paste your completion certificate, then send me a copy of certification of training completion via email when you complete the training.

4. Human Subjects Proposal: Students will write a human subjects proposal to accompany a quantitative research method section. The materials are available on the class Bb site: <http://mymasonportal.gmu.edu>. The work can be turned in via email or hard copy.

5. Evaluation of Empirical Research Articles: Students will write a review of one quantitative intervention study and one qualitative study. The critiques should include the following parts:

- purpose
- methods
- results
- critical comments
- critical reflections about the article (see Blackboard site for specific instructions).

6. Method Sections: 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** study; one will be a **qualitative research** study. Please turn in electronic versions attached to an email sent to the professor at

bshaklee@gmu.edu so that they may be graded electronically – You will be required to keep graded assignments in your doctoral portfolio.

1. Statement of purpose and research questions, including a statement indicating research you are replicating and extending and a relevant citation for the study. This portion 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. A rough estimate of references would be approximately 10, but more may be needed to establish the research questions.
2. Method (5-6 pages)
 - Participants and setting
 - Materials
 - Data sources (dependent variables) instrumentation (where relevant)
 - Research design
 - Procedures (proposed data collection process)
 - Proposed preliminary data analyses (bonus section)
3. References

7. Poster Presentation – as a culminating activity each student will create a poster presentation of one of the methods papers (above). Each poster will be presented during class by the student and questions from the other class participants and instructor will be included. Specific directions for creating the poster can be found on Bb.

RUBRIC FOR HOMEWORK ASSIGNMENTS

Adequate assignment (5 point): Assignment is thorough, thoughtful, correctly done, and submitted on time.

Marginal assignment (2.5 point): Assignment is carelessly prepared, not thoughtful, or incomplete.

Inadequate assignment (0 points): Assignment has little or no value, or is not submitted on time.

RUBRIC FOR HUMAN SUBJECT ONLINE TRAINING

Pass (10 points) Successful completion of online BASIC and other relevant components training on time

No Pass (0 - 6 points) Unsuccessful completion of online BASIC and other relevant components or late in completing assignment.

RUBRIC FOR HUMAN SUBJECT PROPOSAL

Exemplary (9-10 points) Appropriately written document containing all components, including: protocol contains answers to all questions, clearly written, informed consent forms written in readability and format appropriate for target audience.

Adequate (7-8 points) Good overall proposal, but is lacking in one or two of the criteria for an exemplary proposal. Not entirely reflective or thoughtful, or minor writing style or APA format errors may be present.

Marginal (6-7 points) Overall, is acceptable but contains one or more significant problems. Contains some useful information, but may have substantial problems with procedures, writing style or APA format, or unclear or inappropriate description of implementation of project.

Inadequate (<6 points) Proposal contains substantial problems in important areas such as writing, proposed implementation of intervention, procedures for evaluation of results, or overall thoughtfulness.

RUBRIC FOR EVALUATION OF EMPIRICAL RESEARCH ARTICLES

Adequate evaluation (5 point): Evaluation is thorough, thoughtful, correctly done, and submitted on time.

Marginal evaluation (2.5 point): Evaluation is carelessly prepared, not thoughtful, or incomplete.

Inadequate evaluation (0 points): Evaluation is poorly done and/or is not submitted on time.

RUBRIC FOR METHOD SECTIONS

Exemplary paper (18-20 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.

Adequate paper (16-17 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.

Marginal paper (14-15 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.

Inadequate paper (1-13 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.

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.

RUBRIC FOR IN CLASS ASSIGNMENTS, PARTICIPATION, AND ATTENDANCE

Exemplary (9-10 points): The student attends all classes, is on time, is prepared and 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.

Adequate (8 points): The student attends all classes, is on time, is prepared and follows outlined procedures in case of absence; the student makes active contributions to the learning group and class.

Marginal (7 points): The student is on time, prepared for class, and participates in group and class discussions. The student attends all classes and if an absence occurs, the procedure outlined in this section of the syllabus is followed.

Inadequate (6 or less points): The student is 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 discussions. The student may fail to exhibit professional behavior and dispositions. **Excessive absences can result in additional penalties and potential withdrawal from class.**

Grading Policy

Homework Assignments (2)	10 pts total (5 pts each)
Evaluation of Empirical Research Articles (2)	10 pts total (5 pts each)
Human Subjects Online Training	10 pts
Human Subject Proposal	10 pts.
Method Section (2)	40 pts total (20 pts each)
Poster Presentation	10 pts
In Class Assignments, Participation, and Attendance	10 Pts
TOTAL	100 pts

Grading Scale:

At George Mason University, course work is measured in terms of quantity and quality. A credit normally represents one hour per week of lecture or recitation or not fewer than two hours per week of laboratory work throughout a semester. The number of credits is a measure of quantity. The grade is a measure of quality. The system for grading graduate courses is as follows:

Grade	GRADING	Graduate Courses
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

COLLEGE OF EDUCATION AND HUMAN DEVELOPMENT

1. 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/>].

2. Professional Dispositions

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

3. 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/>

4. For GSE Syllabi:

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

5. **Library Support:** Mason Libraries Liaison Librarians provide George Mason students, faculty and staff specialized assistance in their areas of expertise, supporting academic

programs. They will provide research assistance in person, by, phone, email or IB. They will also provide scheduled, subject-focused research consultations for students and faculty. (<http://library.gmu.edu/>). *If you are not yet familiar with Mason's library system and resources please plan to attend one of the scheduled orientations.*

Tentative Course Organization and Schedule

DATE	TOPIC	ASSIGNED READING DUE	WORK DUE
1. 8/25	Review syllabus-Introduction to the Field of Educational Research Overview of course, syllabus, requirements	Chapters 1 & 22 (J/C) Chapter 1 (A/S)	Review and familiarize yourself with all aspects of the Bb site for ease of navigation. Please also review syllabus and be prepared with questions. Pre-Assessment (completed in class)
9/1	Labor Day – no class		Keep Reading☺
2. 9/8	APA Style/Content and organization of a manuscript Interesting Research Questions	Chapter 1 APA Manual Chapters 2 & 3 (A/S)	List of potential research areas/questions that are relevant to your doctoral emphasis
3. 9/15	Ethics and Research	Chapter 2 APA Manual Chapters 2 & 6 (J/C) Chapters 4 & 5 (A/S)	http://www.citiprogram.org review on line module prior to class – must be completed by October 3. Review GMU policies and procedures prior to class http://oria.gmu.edu Homework Assignment #1 APA Paper DUE

4. 9/22	Writing Literature Reviews: Reviewing for a Purpose	Chapter 4 (J/C) <i>Bb: A Guide to Writing Dissertation Literature Reviews</i>	Check on Homework Assignment #2 Literature Review – Addressing “How much is enough?”
5. 9/29	Reviewing Literature for a Purpose	Chapters 6 & 7 (A/S)	Homework Assignment #2 Literature Review DUE
6. 10/6	Specifying a Purpose; Research Questions	Chapter 8 (A/S) Chapter 5 [& 22] (J/C)	Human Subject Online Training must be completed and certification document added to digital drop box on BB site Evaluation of Empirical Research Article #1 Bring a group (not single-subject) experimental design intervention RESEARCH study to class. Identify the research problem, the literature review, the purpose or research questions, the method section, the data collection procedures, the data analyses and the discussion. Highlight each area by identifying it in the margins.
7. 10/13 and 10/14	Columbus Day – no Class on 10/13 BUT Class will meet on 10/14 Measurement & Assessment Methods of Data Collection	Chapters 7 & 9 (J/C)	Mid-point Assessment (completed in class)

8. 10/20	Sampling & Validity of research	Chapter 10 & 11 (J/C)	<p>Discussion of Empirical Research Article #2: Bb Post a qualitative research study to the Discussion section of Bb. Identify the research problem, the literature review, the purpose or research questions, the method section, the data collection procedures, the data analyses and the discussion.</p> <p>Details of the Discussion format for the week are located on the Bb – Discussion Board site.</p>
9. 10/27	Selecting a Quantitative Research Method	Chapters 12 - 14 (J/C)	<p><u>Draft of Quantitative Research Method Section and matching Human Subject Proposal</u> - please email to lbland2@gmu.edu</p> <p>Name assignments with the following protocol LastName_Quant_Methods_Section.doc LastName_Quant_HSRB.doc</p>
10. 11/3	Selecting a Qualitative Research Method Mixed Methods	Chapters 15-18 (J/C)	<p>Final Quantitative Research Method Section and matching Human Subject Proposal DUE</p>
11. 11/10	Collecting, Analyzing, Interpreting Quantitative Data	Chapters 19 & 20 (J/C)	<p>Work on Qualitative Research Methods Section and HSRB proposal</p>
12. 11/17	Data Analysis: Qualitative & Mixed Methods	Chapter 21 J/C	<p><u>Draft of Qualitative Research Method Section</u> - please email to lbland2@gmu.edu</p> <p>Name assignments with the following protocol LastName_Qual_Methods_Section.doc LastName_Qual_HSRB.doc</p>

13. 11/24	Summary and synthesis: What have we learned about educational research methods	Bb: Poster Presentations	Review requirements for poster presentations; Q & A
14. 12/1	Reflections: What have we learned about educational research methods		Final Qualitative Research Method Section Due Final Self-Evaluation (completed in class)
15. 12/8	Poster Presentations		Final Course Evaluations (completed in class)

- J/C = Johnson & Christensen text

- A/S = Alvesson & Sandberg text