
EDUC 6040

Applied Research Methods

Instructor: Sarah Brasiel Ph.D.

Office Hours: By appointment only

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Cell Phone Number: (210) 501-9921 (You may text me, but please include your name)

Class Time: TBD.

Class Location: TBD

Contact Policy: I am accessible to my students by email, phone, text, or through Canvas. If you need a quick response, please either text me or e-mail me. I tend to check Canvas in the mornings, lunch time, and evenings.

Canvas: Please check Canvas each day for course updates, assignments, quizzes, exams, and grades.

Required Reading Materials

- Mertens, D. M. (2014). *Research and evaluation in education and psychology: Integrating diversity with quantitative, qualitative, and mixed methods*. Sage. Fourth Edition
ISBN-13: 978-1-4522-4027-5

Additional Readings: Additional readings will be assigned throughout the semester and will be available via Canvas.

Catalog Course Description: This course is designed to introduce graduate students to the information and skills needed to read and critique research in education, psychology, and other social sciences. Students will develop a basic understanding of research perspectives, methods, statistical analysis, and quantitative and qualitative research designs.

Course Content: Reading assignments will be given each week, and students will be expected to read them thoroughly and prepared to discuss the material contained in the textbook and other course material during our class discussion. Students will also have a variety of practical hands-on experiences and activities designed to master the course material. The course objectives will be accomplished through course readings and discussion, writing assignments, quizzes, and exams.

Course Objectives: The objectives for PSY/EDUC 6040 have been agreed upon by the department heads in the College of Education. The student will be able to do the following:

1. Use the reference area of the library, interlibrary loan services, and computerized databases to locate relevant articles and documents on a selected topic.
2. Use APA guidelines to appropriately cite and reference relevant articles in written work.
3. Describe the relationships among hypotheses, measures, and analysis procedures in a research proposal.
4. Define the major threats to the internal and external validity of an experiment.
5. Critically read published empirical studies to:
 - a. Identify authors' research questions or objectives.
 - b. Specify authors' conclusions.

- c. Identify the major threats to internal validity and discuss the validity of the authors' conclusions in light of those threats.
 - d. Suggest improvements in the design of critiqued studies to remedy the perceived threats to internal or external validity.
6. Understand research ethics and protection of human subjects
 7. Define target and accessible populations and explain the strengths and weaknesses of different sampling approaches and important considerations such as sample size, sampling bias, and external validity in sampling decisions.
 8. Define and assess independent as well as dependent variables.
 9. Understand the issues related to collecting research data using tests, questionnaires, interviews, observation, and content analyses.
 10. Understand test validity and reliability and the importance of those concepts when conducting research.
 11. Understand the differences among nominal, ordinal, interval, and ratio data and how these differences influence the selection of appropriate statistical procedures.
 12. Understand the differences between descriptive and inferential statistics.
 13. Understand the difference between statistical and practical significance including effect size
 14. Understand approaches to take when analyzing qualitative data including computer software that can support qualitative analysis
 15. Describe the methods and tools of different research designs:
 - a. Experimental and quasi-experimental research
 - b. Causal-comparative and correlational research
 - c. Survey research
 - d. Single-case research
 - e. Case study research
 - f. Ethnographic research
 - g. Phenomenological research
 - h. Grounded theory research
 - i. Participatory action research
 - j. Historical-narrative research
 - k. Mixed methods research
 16. Understand strategies for writing research results in a way that improves its utilization

Grading and Evaluation: There are 500 points possible in this course. Your grade for this course will be calculated as detailed below.

Percentage	Grade
93 - 100	A
90 - 92.99	A-
87 - 89.99	B+
83 - 86.99	B
80 - 82.99	B-
77 - 79.99	C+
73 - 76.99	C
70 - 72.99	C-
67 - 69.99	D+
63 - 66.99	D
0 - 62.99	F

Evaluation Activity	Points
Quizzes (10 total quizzes)	100
Discussions (10 total discussions)	100
Article Critique Writing Assignments (5 total critiques)	100
Other Assignments	
Library Search Assignment	25
Experimental Validity Assignment	25
Citi Training (Human Subjects Research)	50
Examinations	
Mid-term Exam	50
Final Exam	50
Total Points	500

Quizzes: There will be 10 quizzes throughout the semester. Each quiz will consist of both multiple-choice and short-answer questions. Questions will be created from class reading materials. Each quiz will be worth 10 points. Quizzes will be posted on Canvas, are open-book, timed (30 minutes), and will be made available on Canvas for students to take anytime before the chapter(s) will be discussed in class. There will be no make-up quizzes.

Discussions: There will be 10 discussions throughout the semester. Each discussion will be posted on Canvas. Students will have one week to post a response to the discussion prompt and to respond to at least one other student's post in order to achieve the full 10 points. Students should reflect on the course readings and create a response that is a few sentences in length that uses appropriate vocabulary and concepts covered in this course. The response to another student's post should be either constructive criticism, a question, further elaboration on the topic, or other response that shows careful reflection and analysis of the topic. Responses can include links to videos or other relevant information as a way to expose the class to relevant information and extend their understanding.

Exams: The two exams will consist of multiple choice, true/false, fill-in-the-blank, open-ended and computational question items. The Mid-term Exam will cover the assigned readings and course work from the first half of the semester. The Final Exam will cover the assigned readings and course work from the second half of the semester. Both exams are open-book, timed (90 minutes), worth 50 points each, and will be made available on Canvas for you to complete. You will be given a two week window to complete the exam.

In order to take a make-up exam, you will need to inform me well in advance (except in the case of a properly documented, university-approved, emergency) and make necessary arrangements to take the exam late. If arrangements are not made prior to the exam due date, you will not be able to complete the exam.

Other Assignments:

1. **Library Search Assignment.** Computer-assisted literature searches have greatly facilitated the retrieval of literature for doing research reviews. Students will complete the library assignment sheet, which requires them to use some of the most important techniques they learn during the guided tour with the library subject guide assigned to the course. This tour will take place during one of the first class sessions.
 - a. Submission: Please submit via Canvas as a Word .doc or .docx.
 - b. Evaluation: 25 points

2. **Experimental Validity Assignment.** Students will complete a worksheet in which they identify the most compelling threats to internal validity in a number of research situations.
 - a. Submission: Please submit via Canvas as a Word .doc or .docx.
 - b. Evaluation: 25 points.

3. **Article Critique #1-5.** The ability to critique and critically evaluate the adequacy of completed research is an essential skill. During the semester, students will do a short written critique of five different research articles.
 - a. Submission: Please submit via Canvas as a Word .doc or .docx
 - b. Evaluation: 20 points for each critique

Late Assignments will receive an immediate deduction of half the available points and will only be accepted within a day (or 24 hours) after the assignment was due, except in the case of a properly documented, university-approved, emergency. In the case of a properly documented, university-approved emergency, students must contact me and make necessary arrangements to submit their assignment at a later date.

Learning Modules: Learning Modules have been created for each day of class and are accessible to students on Canvas. Each Learning Module will include lecture presentations, assignments, links to the discussion and quiz/assessment, and other useful course information. Please check the Learning Module at the beginning of each week, as it will help guide you through the course material and assignments.

Students with Disabilities: Qualified students with disabilities may be eligible for reasonable accommodations. If a student has a disability that will likely require some accommodation by the instructor, the student must contact the instructor and document the disability through the Disability Resource Center (797-2444 voice, 797-0740 TTY, or toll free at 1-800-259-2966; Room 101 of the University Inn), preferably during the first week of the course. Any request for special consideration relating to attendance, pedagogy, taking of examinations, etc., must be discussed with and approved by the instructor. In cooperation with the Disability Resource Center, course materials can be provided in alternative format, large print, audio, diskette, or Braille."

Academic Honesty: Students are expected to maintain the highest standards of academic honesty. Cheating, falsification of information or plagiarism will not be tolerated. Standards of the University concerning academic honesty are described in the Student Policy Handbook, Article V, Section 3, paragraphs a, b, and c. It is particularly important to emphasize that the written paper for the course must be the student's own work. Plagiarism, using the work of another student as your own, or cheating will be grounds for a failing grade in the course. If you have any questions about how much collaborative work is permissible for any part of the class, speak with the professor.

Tentative Course Schedule:

Week	Reading Assignments	Assignments
1	Chapter 1	Review of Syllabus Introductions Chapter 1: An Introduction to research. Discussion 1 Quiz 1
2	Chapter 2	Chapter 2: Evaluation Discussion 2 Quiz 2
3	Chapter 3	Chapter 3: Literature review and focusing the research Library Search Assignment (Due week 9) Discussion 3 Quiz 3
4	Chapter 4	Chapter 4: Experimental and quasi-experimental research Discussion 4 Experimental Validity Assignment (Due week 9)
5	Chapter 11	Chapter 11: Sampling Article Critique #1 Citi Training Assignment (Due week 12) Quiz 4
6	Chapter 12	Chapter 12: Data Collection

Week	Reading Assignments	Assignments
		Discussion 5 Quiz 5
7	Chapter 13	Chapter 13: Data Analysis, Interpretation, and Use Article Critique #2 Quiz 6
8	Chapter 14	Chapter 5: Causal comparative & correlation research Discussion 6 Quiz 7
9		Midterm Discussion 7
10	Chapter 6	Chapter 6: Survey Article Critique #3 Quiz 8
11	Chapter 7	Chapter 7: Single-Case Research Discussion 8 Quiz 9
12	Chapter 8	Chapter 8: Qualitative Methods Article Critique #4 Quiz 10
13	Chapter 9	Chapter 9: History and Narrative Study of Lives Discussion 9
14	Chapter 10	Chapter 10: Mixed Methods Research Article Critique #5
15		Final Exam Discussion 10