Midwestern State University
Gordon T. & Ellen West College of Education
EDUC 5053.X10 and 5053.DX1: Introduction to Educational Research
Keith Lamb, Ph.D.
Fall 2022
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Required Texts
Huck, S.W. (2011). *Reading statistics and research* (6th ed.). Boston: Allyn & Bacon.

American Psychological Association (2020). Publication manual of the American Psychological
       Association (7th ed.). Washington, DC: American Psychological Association.

Handout and copied material as required throughout the semester.

Recommended Resources
You will need access to a computer with a high-speed Internet connection and the following
software: Microsoft PowerPoint (will use audio) and Microsoft Word.

Graduate Catalog Description of Course
Fosters an understanding of the role of research in education and acquaints students with
research methodologies appropriate to education while preparing them to understand, analyze,
synthesize, and critically evaluate contemporary educational research. This course should be
taken in the first or second semester of the program.

Instructor Availability
You may always contact me via phone, email, or at my office.

Goal of the Course
To provide students the knowledge, skills, and dispositions necessary 1) to read, analyze, and
understand research, and 2) to write a mini-literature review. The mini-literature review should
be 5-7 pages in length.

Objectives
By the end of this course, the student will be able to:
1. Understand the rationale, purpose and ethical implications of research in educational
    settings. (CACREP Standards a, e and f)
2. Identify types of data and associated appropriate measures of central tendency and
    descriptive statistics. (CACREP Standards b, c and d)

3. Describe null and directional hypothesis and interpret both from research questions. (CACREP Standards b, c and d)
4. Describe the differing types of reliability and validity and analyze the value of each in research articles. (CACREP Standards b, c and d)
5. Analyze inferences from bivariate correlation statistics (both parametric and non-parametric). (CACREP Standards b, c and d).
6. Interpret written results of parametric tests including; t-tests, ANOVA, and post hoc tests. (CACREP Standards b, c and d)
7. Interpret written results of nonparametric tests including Mann Whitney U, Kruskall Wallis, Chi Square, Fischer, and Wilcoxon.
8. Interpret results of qualitative research including single case, case study, focus groups, ethnography, and content analysis of written documents. (CACREP Standards a and e)
9. Analyze quantitative, qualitative, and mixed methods research (CACREP Standard b)
10. Use information from critical analysis of previous research to create a literature review synthesizing multiple resources and contrasting differing points of view.

Course Structure
This is a structured course with weekly lectures delivered via Microsoft PowerPoint. There is a learning module in Desire2Learn for each week of the course (Monday – Sunday). The module for each week will appear on your course homepage. Within each module, you will find the PowerPoint lecture and any other items for that week. Similarly, the "content" function in Desire2Learn contains an outline of the course, and each week will appear when the content is ready.

Week 1 (August 22 - 28)
>	*Course introduction*
1. Introduction of literature review assignment

Week 2 (August 29 – September 4)
>	*Research Overview*
>	*Literature Reviews*
>	*Overview of Quantitative, Qualitative, and Mixed-Methods Designs*
1. Text: chapter 1
2. Introduction of synthesizing literature assignment

Week 3 (September 5 – 11)
>	*Descriptive Statistics*
>	*Measures of Central Tendency*
1. Text: chapter 2
2. Research topic and questions due (part of literature review assignment)

Week 4 (September 12 – 18)
>	*Correlation*
>	*Reliability and Validity*
1. Text: chapters 3 and 4

Week 5 (September 19 - 25)
Sampling
Inferential Statistics
1. Text: chapter 5
2. Synthesizing Literature assignment due

Week 6 (September 26 – October 2)
Hypothesis Testing
1. Text: chapter 7

Week 7 (October 3 - 9)
Practical Significance
Statistical Significance
1. Text: chapter 8
2. Hypothesis testing questions due

Week 8 (October 10 - 16)
Catch-up
1. Article Review #1 due

Week 9 (October 17 - 23)
Statistical Inference on one or two means
1. Text: chapter 10

Week 10 (October 24 - 30)
Statistical Inference on three or more means
1. Text: chapter 11
2. Literature review assignment – draft I due

Week 11 (October 31 – November 6)
Comparisons
1. Text: chapter 12
2. Statistical inference questions due

Week 12 (November 7 - 13)
Repeated Measures
Regression
1. Text: chapters 14 and 16

Week 13 (November 14 - 20)
Inferences on Percentages, Proportions, and Frequencies
Statistical Tests on Ranks
1. Text: chapters 17 and 18
2. Article Review #2 due

Week 14 (November 21 - 27)

Qualitative Designs
1. Single Case
2. Content Analysis
3. Time Series

Week 15 (November 28 – December 4)
1. Final copy of literature review due

Assignments (See appropriate module or content tab in Desire2Learn)
1. Topic Questions
    a. Hypothesis testing **(due by October 9)**
    b. Statistical inference **(due by November 6)**
2. Article Reviews
    a. Article Review #1 **(due by October 16)**
    b. Article Review #2 **(due by November 20)**
3. Literature Review
    a. Topic and research questions (**due by September 11**)
    b. Synthesizing Literature (**due by September 25**)
    c. Draft 1 (**due by October 30**)
    d. Final Literature Review (**due by December 4**)

Grades
1. Literature review draft (15%)
2. Final Literature review (25%)
3. Topic Questions (2 @ 10% each = 20%)
4. Synthesizing Literature (10%)
5. Article Reviews (2 @ 15% each = 30%)

Methods of Instruction
This course will be presented in a manner that allows you to learn independently, from each other, and from interaction with the instructor. While you may work to some degree at your own pace, the course does provide structure. As such, please adjust your schedule accordingly to allow for adherence to posted due dates. Specifically, this course will utilize lectures delivered via PowerPoint, discussion board postings, email, assignments, and exams.

Internet courses are a convenient and effective method of learning; however, they require as much work and attention as traditional instruction. Please consider the following recommendations to ensure your success in this course:

1. Schedule at least 6 to 8 hours a week for this course.
2. Please adhere to posted due dates. You may turn-in assignments early.
3. Please read the assigned text for the week before viewing/listening to the PowerPoint lecture.
4. Please seek clarification for any questions, and do so in a timely manner! You may ask me directly or you may post a question to the discussion board. At my option, I will post

course-material questions received via email to the discussion board. I will not identify the originator of the question, though.

Attendance Policy
As this is an online course, attendance is analogous to participation.

My Expectations
My expectations of the students are really simple: actively participate in class, adhere to all due dates, give maximum effort, ask questions, and please let me know if there is something I can do to serve you better.