

# Psychology and Research in Education

## PRE 715 Understanding Research in Education

Fall, 2001

**Instructor:** James W. Lichtenberg **Line # 58218**

**Office hours:** Tuesday afternoons by appointment (3:00-5:00pm)

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**Schedule:** Monday, 7:20-10:00pm

**Room:** 205 JRP

Description: This course introduces the concepts and skills involved in understanding and analyzing research in education and related areas. The course provides an overview of basic, general knowledge of various research issues and methodologies. Students should expect to study much of this material in greater depth through additional course work before being fully prepared to conduct independent research. However, this course should enhance your ability to locate, read, comprehend, and critically analyze research articles and reports. In this regard, the goal of the course is to help prepare students to be “critical consumers” of educational and social/behavioral science research. Topics in the course include quantitative and qualitative methods and designs, historical and descriptive research, and program evaluation.

Objectives: To gain an introductory-level of familiarity with the principles of educational research and the quantitative and qualitative methodologies used in the service of such research, and to become a good “consumers” of this research.

Texts/Readings: Johnson, B., & Christensen, L. (2000). Educational research: Quantitative and qualitative approaches. Needham Heights, MA: Allyn & Bacon (hereafter cited as **JC**)

Any additional assigned readings will be made available in the School of Education Learning Resource Center (hereafter cited as LRC) or distributed in class (or via email). LRC readings will be in a single notebook that is available for student check-out—thereby allowing for photocopying of readings if so desired. Reference citations for any additional readings will be provided when the readings are assigned. If the notebook of reserved readings has been checked-out by another student, you may find a copy of the paper in the periodicals section of the library.

Grading: Grading will be A-F (plus/minus). Final grades will be based on (a) a series of three exams, (b) a set of research critiques, and (c) regular class attendance and informed class participation.

Regarding grades: Graduate School policy states that "the letter I [incomplete] is used to indicate coursework that has been of passing quality, some part of which is, for good reason, unfinished." If you anticipate that you can't complete the work for the class and don't have a legitimate reason (e.g., a documented medical condition, or some other personal/family condition that prevents completion of the course requirements on time), please withdraw from the course; otherwise, missing work must be graded as F. In all cases, incomplete grades must be discussed with the instructor beforehand.

**Exams:** (~60%) Each examination will involve some combination of multiple choice and/or short answer identification items to assess general factual recall and understanding of the vocabulary, principles and concepts of educational research and its methods. Exams will be administered at the end of the designated class period and will last approximately 45 minutes. Each exam will constitute approximately 20% of the student's course grade. Individual exams will be graded using the following scale:

A	=	90 - 100% correct
A-	=	85 - 89% correct
B+	=	80 - 84% correct
B	=	75 - 79% correct
B-	=	70 - 74% correct
C+	=	65 - 69% correct
C	=	60 - 64% correct
D	=	55 - 59% correct
F	=	<55% correct

**Note:** The grade for the exam portion of the course grade will follow the same "percent correct" scale, but will be based on the total number of correct responses (across the 3 exams) and the total possible exam points (across the 3 exams). To the extent that the exams are not of equal length, they necessarily will carry differential "weights" in terms of the final course grade.

**Final exam:** The date for the final (3<sup>rd</sup>) examination is **Monday, Dec. 17 (7:30-10:00pm)**. This date and time are set by the university (see Timetable of Classes, 2001 (Appendix A7)).

**Research Critiques:** (~40%) Each student will submit four (4) critiques of original empirical research studies on some topic, issue, or question relevant to his or her discipline (or area of interest). Of these,

1. one must be of a qualitative study
2. one must be of a quantitative experimental study
3. one must be of a quantitative quasi-experimental study or single-case experimental study
4. one must be of a quantitative non-experimental study

\*\* You may submit these in any order.

**Critique format.** Critiques are to be typed, double-spaced throughout, with one-inch margins on all sides. Each page of the paper should be numbered. A suggested outline format to use in preparing the critiques accompanies this syllabus. Each critique should include (a) a

Research Critique Coversheet, (b) a brief summary/synopsis of the various sections of the research article and (c) a critique of the study. The summary/synopsis should be succinct, but sufficiently detailed so that the basis for critique will be understandable without having to refer to the article. Nevertheless, each critique also should have appended to it a copy of the research article you are critiquing.

Please proof-read your paper carefully for spelling and grammatical errors. Poorly written critiques will receive lower grades regardless of content. The due dates for the test critiques on the course schedule. Critiques may be submitted prior to their assigned dates. Grades for late papers will be lowered one grade for every day they are late. Staple your paper once in the upper left-hand corner (do not use a binder) and **append to it a copy of the research article you are critiquing**. Although critiques will be returned, students are advised to retain a copy of their submitted papers (including the research article) for their records. Note: the research article will not be returned with the critique.

**Critique grading.** Because it is reasonable to expect there to be a “learning curve” to one’s ability to critique research articles, for purposes of grading, the first two critiques will be evaluated less stringently than the final two critiques. Early evaluations will focus on the student’s ability to understand and communicate the research issue(s), the question(s) being addressed in the article and the purpose of the study, the research hypotheses (if any), the constructs and variables under investigation (and their operationalization), and the sampling procedures used. Later evaluations will include the above, as well as the student’s critique of other methodological issues (e.g., threats to the internal, external, hypothesis and statistical validity of the study, as well as other design/analysis/conceptual issues). The following is the template that will be used for grading the critiques:

**SCORE 5 - OUTSTANDING:** Presents a cogent, well-articulated understanding and analysis/critique of the study—its purpose, hypotheses, methodology and findings.

**SCORE 4 - STRONG:** Presents a well-developed analysis of the study and its strengths and weaknesses.

**SCORE 3 - ADEQUATE:** Presents a competent critique of the study and demonstrates adequate basic understanding of its methods.

**SCORE 2 - LIMITED:** Demonstrates some competence in its critique of the study but is plainly limited in its understanding of the study’s purpose and methodology and of the strengths and limitations of the study.

**SCORE 1 - DEFICIENT:** Demonstrates fundamental deficiencies in critical thinking about the study and provides little evidence of the ability to understand the study’s purpose, design or findings.

**SCORE 0 – FAILURE TO SUBMIT or MERELY SUMMARIZES/ABSTRACTS THE ARTICLE:**  
Provides only a summary or abstract of the study. Critique, if present, merely restates the strengths and limitations stated in the article.

**A = 4 or 5**

**B = 3**

**C = 2**

**D = 1**

**F = 0**

**Note:** Any student in this course who has a disability that prevents the fullest expression of her or his abilities or effort should contact me personally and as soon as possible so that we can discuss the appropriate accommodations necessary to complete the course requirements.

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The following is a tentative schedule of topics and readings. The pacing and/or sequencing of the topics and readings may vary somewhat during the course of the semester, but the schedule below should be "in the ballpark." Even if we get a bit off-schedule, please keep up with the assigned readings. The readings listed below for class dates are the readings that should be complete for that class session. Exam dates are in **bold**; critique due dates are in *italics*.

<u>Class date</u>	<u>Topic</u>
Sept. 17	Introduction and course overview  The research process <b>Reading(s): JC</b> (chapters 1 & 2)
Sept. 24	The research report <b>Reading(s): JC</b> (chapter 3 & 16)
Oct. 1	Data and data collection <b>Reading(s): JC</b> (chapter 4)
Oct. 8	Data and data collection: Tests, questionnaires and sampling <b>Reading(s): JC</b> (chapters 5 & 6)
<i>Oct. 15</i>	Validity issues in research <b>Reading(s): JC</b> (chapter 7) <b>** <u>first critique due</u></b> (beginning of class)
<b>Oct. 22</b>	Experimental research <b>Reading(s): JC</b> (chapter 8) <b>Exam 1:</b> will cover lectures and chapters 1-7, plus 16
Oct. 29	Quasi-experimental research <b>Reading(s): JC</b> (chapter 9)
<i>Nov. 5</i>	Non-experimental research <b>Reading(s): JC</b> (chapter 10) <b>** <u>second critique due</u></b> (beginning of class)
Nov. 12	Qualitative and historical research <b>Reading(s): JC</b> (chapters 11 and 12)

- Nov. 19** Data analysis: Descriptive statistics  
**Reading(s): JC** (chapter 13)  
**Exam 2:** will cover lectures and chapters 8-12
- Nov. 26* Data analysis: Inferential statistics  
**Reading(s): JC** (chapter 14)  
\*\* third critique due (beginning of class)
- Dec. 3 Data analysis: Inferential statistics (cont.)  
**Reading(s): JC** (chapter 14, cont.)
- Dec. 10 Data analysis: Qualitative methods  
**Reading(s): JC** (chapter 15)
- Dec. 17** **Final exam (exam 3):** will cover lectures and chapters 13-15  
\*\* final critique due (beginning of class)