

CALIFORNIA STATE UNIVERSITY SAN MARCOS

Research Methods in Education

SPRING 2005

EDUC 622 (3 Units)

Arts 220

Mondays. 5:30-8:15

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Office Hours: Mon & Thurs 4:30-5:30 and by appointment

About this Course:

This course is a graduate-level seminar, required as a part of all master's programs in the College of Education. The course is an introduction to the field of educational research, what it involves, what types exist, how to design and conduct such research, and how to read and understand research reports.

This course will provide you with foundation research skills needed for preparing a thesis proposal. However, emphasis in the course is primarily from the perspective of the consumer of research, that is, those who use research findings. The major consumers of educational research are: classroom teachers; school district administrators; researchers, those who write reviews of research; and the media which disseminates reports of educational issues and trends. Consumers of research need to understand research design well enough to differentiate well-conducted studies from poorly-conducted ones -- so that they can judge the value of the results and conclusions of research reports they read.

As classroom teachers, you use results of research studies to help you make school-related decisions such as what instructional practices to implement for improving student learning and which curricular programs to adopt. Before you can make decisions based on results of any research study, you need a means of judging the adequacy of the research methods used by those who conducted the study. This course prepares you to read, analyze, interpret, and evaluate research reports so that you can make sound research-based decisions.

Course Overview:

Topics of study are grouped into: Basics about Research in Education, True Experiment Designs, Instrumentation and Measurement, Non-Experimental Designs, Qualitative studies, Conducting Research in Classrooms, Ethics in Research, Developing a Research Proposal. In the first part of the course, you will learn the basic concepts of educational research through reading about them in the textbook and discussing them in class. In the second part of the course, you will further your understanding of these concepts by reading some actual studies and preparing critiques of them. As an ongoing project, you will be completing an individual research proposal.

Course Objectives:

1. To understand and be able to explain briefly the fundamental concepts (e.g., hypothesis, sampling, replication, external validity, etc.) of educational research.
2. To be able to explain how to perform each of the following procedures (and, if asked, actually perform them):
 - ✓ Formulate a research problem

- ✓ State a research hypothesis related to the research problem
- ✓ Identify variables in a hypothesis
- ✓ Write a justification for a hypothesis
- ✓ Define the terms of a hypothesis constitutively and operationally
- ✓ select a sample appropriate to a research question/hypothesis
- ✓ Conduct a review of the research literature on a given topic
- ✓ Locate or develop an instrument to test a hypothesis
- ✓ Perform a reliability and validity check on a research instrument
- ✓ Identify and seek to control threats to the internal and external validity of a research investigation
- ✓ Collect research data using the appropriate instruments and tests

3. Analyze, critique, and evaluate existing research reports based on pre-established criteria

4. Plan and prepare a written research proposal using an experimental, quasi-experimental or causal-comparative design

Readings:

Required Text

Fraenkel & Wallen (2003). How to Design and Evaluate Research in Education, (5th Edition). McGraw-Hill. This book comes with an accompanying CD and workbook and is available in the Campus bookstore.

Other materials -- to be distributed as handouts in class.

COURSE REQUIREMENTS / RESPONSIBILITIES and GRADING

The grades that you earn in this class are based on preparation/participation in class discussion and other in-class activities, weekly reading-discussion questions, written critiques of research studies, and a research proposal. You will receive grades (not points) for each of these requirements.

1. PARTICIPATION/PREPARATION (30%of course grade)

Everyone in the class shares responsibility for its overall quality. Attendance, participation, and preparation are therefore essential for all class sessions. Preparation for class entails having read (and in most cases re-read) the book chapters and other material well enough to be able to engage in lively and meaningful discussion of the ideas presented. Writing your weekly discussion questions (see following assignment) on the week's readings will help you to ask thoughtful questions and make insightful comments during these discussions. In addition to discussion, we will engage in a number of in-class group activities; many of these will require additional preparation in the form of written critiques of research studies (see below).

Obviously there can be no make-ups on in-class activities. You have to be present in class to earn credit for participation assignments.

College of Education Attendance Policy

“Due to the dynamic and interactive nature of courses in the College of Education, all students are expected to attend all classes and participate actively. At a minimum, students must attend more than 80% of class time, or s/he may not receive a passing grade for the course at the discretion of the instructor. Individual instructors may adopt more stringent attendance requirements. Should the student have extenuating circumstances, s/he should contact the instructor as soon as possible”. (*Adopted by the COE Governance Community, December, 1997*). Arriving late or leaving early are considered as absence for half the class session. Because the policy states that you “must attend more than 80% of class time, or s/he may not receive a passing grade for the course”, if you miss the equivalent of two class sessions you will not receive a passing grade.

2. WEEKLY DISCUSSION QUESTIONS (20% of course grade)

In preparation for each class session you will be reading assigned material. For each textbook chapter listed on the course outline, you will create 3 of your own thought-provoking questions based on the material read. (You don't need to provide written answers to your questions.) My research shows that generating your own thought-provoking questions will help you to understand and reflect upon the material you are reading by making connections between ideas within and across chapters and articles or between the material you read and what you already know. Your questions will also be used to stimulate discussion during class time, therefore make a copy of your questions for your own use during class discussion).

Guidelines for developing thought-provoking questions are described in a separate document.

Note: discussion questions are to be turned in at the beginning of the appropriate class session (I can't accept them if turned in during class or after class).

3. Critiques-evaluations of Research Studies (30%of course grade)

You will be completing several individual written critical analysis-evaluations of research studies prior to class, presenting them in class, and turning them in. I'll provide you with guidelines for developing these critiques.

4. Research Proposal (20%of course grade)

This is an on-going project based on "Problem Sheets" completed as homework assignments and will be finalized and written up to be turned in for evaluation on final exam day.

(Tentative) COURSE OUTLINE and SCHEDULE

| <u>date</u> | <u>topic</u> | <u>readings and assignments</u> |
|---|---|---|
| session) | | (readings are to be completed prior to class |
| Mon. 1/24 | Introduction to the course and each other The research process & some research terminology Research problems and questions questioning | assignment: Problem Sheets 1 & 2 |
| <hr/> | | |
| Basics about Research in Education | | |
| Mon. 1/31 | Types of Research Research Problem/question, terms, justification Variables and Hypotheses | Fraenkel & Wallen, Chapter 1, 2 & 3 assignment: Problem Sheet #3 |
| <hr/> | | |
| Mon. 2/7 | Ethics in Research Reviewing the Literature Sampling and generalizability | Fraenkel & Wallen, Ch 4 Fraenkel & Wallen, Ch 5 & 6 assignment: Problem Sheets #4, 5 & 6 |
| <hr/> | | |
| Experimental Research Designs | | |
| Mon. 2/14 | True experimental designs Internal validity Evaluating reports of Experimental-Design Research | Fraenkel & Wallen, Ch 13 Fraenkel & Wallen, Ch 9 assignment: critique- evaluation |
| <hr/> | | |
| Mon. 2/21 | True experimental vs quasi-experimental designs | assignment: critique-evaluation |
| <hr/> | | |
| Instrumentation and Measurement | | |

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| Mon. 2/28 | Overview of instrumentation Kinds of assessment and types of instruments accuracy & consistency (validity and reliability) | Fraenkel & Wallen, Ch 7 Fraenkel & Wallen, Ch 8 assignment: Problem Sheets #7, 8 & 9 |
| Mon. 3/7 | instrumentation (continued) Evaluating instrument sections of research reports | assignment: critique-evaluation |
| Mon. 3/14 | Reading and interpreting "results" sections data analysis interpretation of results | Fraenkel & Wallen, Ch 10 & 11 assignment: Problem Sheets # |
| 10&13 | | |
| Non-Experimental Research Designs | | |
| Mon. 3/21 | Causal-comparative research (ex post facto) | Fraenkel & Wallen, Ch 16 assignment: critique-evaluation |
| Mon. 3/28 | spring break and conference | |
| Mon. 4/4 | Correlational research Survey research | Fraenkel & Wallen, Ch 15 Fraenkel & Wallen, Ch 17 assignment: critique-evaluation |
| Mon. 4/11 | Qualitative Research data analysis, interpretation of results, generalizability in qualitative studies Observation and Interviewing | Fraenkel & Wallen, Ch18 Fraenkel & Wallen, Ch19 assignment: critique-evaluation |
| Mon. 4/18 | Content analysis Ethnographies | Fraenkel & Wallen, Ch 20 Fraenkel & Wallen, Ch 21 assignment: critique-evaluation |
| Mon. 4/25 | critiquing "discussion" sections & abstracts | assignment: critique-evaluation |
| Mon. 5/2 | Developing a Proposal | Fraenkel & Wallen, Ch 24 |
| Thursday 5/9-- | 4:30- 6:30 | ---final exam -- research proposal due |

Students with Disabilities Requiring Reasonable Accommodations

Students must be approved for services by providing appropriate and recent documentation to the Office of Disable Student Services (DSS). This office is located in Craven Hall 5205, and can be contacted by phone at (760) 750-4905, or TTY (760) 750-4909. Students authorized by DSS to receive reasonable accommodations should meet with their instructor during office hours or, in order to ensure confidentiality, in a more private setting.

All University Writing Requirement

The CSUSM writing requirement will be met in this course by weekly assignments (including written problem sheets, written questions, eight 3+ page critiques), and development of a written research proposal.

College of Education Mission Statement

The mission of the College of Education Community is to collaboratively transform public education by preparing thoughtful educators and advancing professional practices. We are committed to diversity, educational equity, and social justice, exemplified through reflective teaching, life-long learning, innovative research and on-going service. Our practices demonstrate a commitment to student-centered education, diversity, collaboration, professionalism, and shared governance. *(Adopted by COE Governance Community, October, 1997).*

CSUSM Academic Honesty Policy

“Students will be expected to adhere to standards of academic honesty and integrity, as outlined in the Student Academic Honesty Policy. All written work and oral assignments must be original work. All ideas/materials that are borrowed from other sources must have appropriate references to the original sources. Any quoted material should give credit to the source and be punctuated with quotation marks.

Students are responsible for honest completion of their work including examinations. There will be no tolerance for infractions. If you believe there has been an infraction by someone in the class, please bring it to the instructor’s attention. The instructor reserves the right to discipline any student for academic dishonesty in accordance with the general rules and regulations of the university. Disciplinary action may include the lowering of grades and/or the assignment of a failing grade for an exam, assignment, or the class as a whole.”

Format for Written Work that You Turn In

Because I am visually disabled, I use a reading machine to "read" student papers whenever possible. This machine is essentially a specialized kind of computer that combines a scanner, intelligent text recognition, and speech synthesis. In order to facilitate this process, that is, to make your papers machine-readable with a minimum of errors in scanning, translating to text, and pronunciation, please Use 8.5 x 11 paper, word-process your papers, proof read them carefully, and use your computer's spell-check function to correct spelling errors and typos.

Thanks for your cooperation.