

Strategies for Educational Inquiry

Spring Semester 2001

Y520 - Section 5825

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Required Text: Fraenkel, Jack R. & Wallen, Norman E., (2000). *How to Design and Evaluate Research in Education*. Boston: McGraw-Hill. (Used copies with a 1999 copyright date are okay).

Course Description

The catalogue description for Y520: “Introductory course intended to orient beginning graduate students to the conduct of social science inquiry in general and educational inquiry in particular and to acquaint them with key terms and generally accepted procedures in qualitative and quantitative inquiry.”

Throughout your career you will encounter empirical research reports that claim to describe a true state of affairs. The report may (a) describe a phenomenon of interest to educators, or (b) identify causal relationships between certain outcomes of interest and antecedent conditions and/or characteristics. In Y520 students learn to analyze and evaluate the adequacy of these descriptions and claims of causation by focusing on the theory and practice of empirical social science research methods as applied to education.

No pre-requisites are listed for this course. However, some statistical and quantitative analytical techniques are, of necessity, used. Students should be able to perform basic mathematical and statistical operations. Completion of an undergraduate course in statistics will be helpful, but not required.

The primary goals are to:

1. Learn to discriminate between good research and other (presumably, not-so-good) research.
2. Improve your ability to read, understand, interpret, evaluate and use empirical research.
3. Become familiar with the ideas and concepts underlying empirical investigation and (perhaps) modeling.
4. Appreciate the role of judgment when drawing inferences from data and analysis.

Secondary goals:

1. Become familiar with the major research designs and control techniques and how to apply them.
2. Learn how to discriminate among and interpret commonly used statistical tests, and to select the appropriate statistical tests for a given research problem.
3. Become familiar with the major theoretical and philosophical approaches to research in education.
4. Improve your writing skill.

Course Organization

This is the first semester that Y520 (section 5825) is offered entirely over the web, with no scheduled, in-person class meetings. For this reason, expect the course organization to be a little looser and more subject to change.

Traditional, face-to-face, classroom-based courses include lectures, classroom discussions, assigned readings, homework, tests, term papers, oral and/or written presentations by students, and group projects. Students who enroll for a web-based course are geographically dispersed and not all of these elements are duplicated easily. The course content is divided into units/topics (see the units listed elsewhere on the home page).

The correspondence between traditional classroom elements and the web equivalents is:

- **Lectures.** At least one virtual lecture exists for each unit/topic. Most of these lectures were delivered originally in person, in a traditional classroom, to live students in seats, who provided feedback with questions and facial expressions. For this course “lectures” consist of a series of “slides” that summarize the main points of the topic. Students provide feedback (e.g., “I don’t understand this point.”) through SiteScape, the conferencing system used in many IU on-line courses. You can photograph and send your facial expressions of puzzlement, enlightenment, joy, boredom, whatever, if you like.
- **Lecture notes.** Several topics have accompanying lecture notes that expand on the main points usually by adding details, add the necessary caveats, provide examples, and suggest additional sources of information if you need or want them.
- **Required Readings.** Most topics have one or more required readings, either a textbook chapter and/or article(s). By the end of the course you will have read most chapters of Fraenkel and Wallen. Other required and suggested readings will be added to the and web page as we progress throughout the semester. Instructor written questions are provided for some of the required readings.
- **Suggested Readings.** When I was a student, I sometimes found the required readings (a) impenetrable, (b) too simplistic, or (c) fluff. Some of the required reading may provoke one of these reactions from you and if so, turn to the suggested readings for similar materials by different authors.
- **Classroom Discussions.** Our discussions will occur via SiteScape. Several of you have used this system before in other web classes offered at Indiana University. This system affords you the opportunity to ask questions about anything that is unclear in the lectures, class notes, or readings. It also provides the opportunity for students to address questions posed by other students. You should not view your humble instructor as the first source for answers to questions. Rather, when you see a query posted either by another student or the instructor, you should step forward and answer that question, provided you know the answer.

- **Presentations.** SiteScape also permits students to present written products to the class.
- **Critiques.** For a small number of empirical research articles, students will have the opportunity to demonstrate both their analytical and writing skills by writing a formal critique of assigned research articles.
- **Homework.** Rather than handing out homework problems in class, students will access the problems via the web. The number of homework assignments varies each semester.
- **Tests.** *Quizsite* was designed to administer objectively scored tests via the web. Expect a mid-term and a final. More likely than not, these tests will consist of problems to solve and will not involve *Quizsite*.
- **Research Prospectus.** Students will write a term paper and submit the rough draft and final versions via e-mail. Details will be forthcoming as we progress (also see “Research Prospectus/ Term Paper” below).

Course Requirements and Grading

Grades will be determined by performance on critiques of empirical research articles, the research prospectus, homework and tests, and by participating in class activities.

Students are responsible for their individual preparation and participation. Preparation consists of reading (and note-taking) the assigned material and completing assignments prior to the due date. Participation is defined as contributing relevant comments to on-line discussions (i.e., answering questions posed either by other students or the instructor — and withholding irrelevant comments), working on individual (and group) problem-solving exercises, engaging in constructive criticism, assisting other class members, and demonstrating solutions to problems (including presentation of your term paper).

Some of the article critiques may be formal, written products that demonstrate a thorough understanding of an assigned research report — and its limitations. Other critiques require you to complete an “article critique form.”

Homework exercises are opportunities for you to demonstrate your understanding of certain concepts and mastery of data analytic techniques.

Research Prospectus/Term Paper

An ongoing assignment is the development of a research prospectus. A prospectus outlines all the steps required to conduct an empirical research project, including:

1. a statement of the problem,
2. selective review of the relevant empirical literature,
3. conceptual definition of variables and operational definitions,
4. proposed hypotheses, proposed research design,
5. description of data collection and data analysis,
6. anticipated problems and ethical concerns,
7. possible conclusions and recommendations (One characteristic of a good prospectus is the generation of a test data set and its analysis),
8. references — The reference section should provide convincing evidence that you know the proper APA style for books, journals, papers read at conferences, and so forth, and
9. annotated bibliography — at least ten empirically based, relevant research articles, with your evaluation of their quality.

The first part of the research prospectus (that you hand-in for feedback) is a statement of the topic and a preliminary bibliography, along with a statement of how you conducted your literature search. It describes the purpose and scope of the research, state the research problem, the background, and provides a list of the literature to be reviewed. See the schedule for the due date.

The second part is the rough draft of the complete prospectus. This is a “typewritten” outline (suggested: 5- to 10-page) of the entire prospectus. It covers all the steps in the planning and execution of the proposed research project, in draft form. The annotated bibliography should be completed at this point. The rough draft due date is on the schedule.

The final version of the prospectus is your revised version of your rough draft. It should fully cover all the steps in the research process and includes the annotated bibliography. You should incorporate any pertinent concepts from the last weeks of class that were not included in the rough draft. The final version will be graded.

Grading of all written assignments is based on organization and completeness of the document; quality and originality of ideas; use of proper grammar, spelling, and syntax; ability to choose the relevant concepts or techniques and apply them correctly; and proper citation of the literature.

All written assignments should be in courier 11 or 12 points, double spaced, and follow the conventional rules of grammar, punctuation, spelling, and notation of references. Use the *Publication Manual of the American Psychological Association* as your style guide. Be sure to use the margins and type size as specified. Always keep a copy of your written assignments for yourself. Assignments turned in late will lose points for each day they are late.

Please note that all University policies regarding cheating and plagiarism will be strictly followed. Cheating and plagiarism are subject to grade lowering and/or other sanctions. This also applies to the preparation of research papers, projects, and prospectus. You may not submit simultaneously a research or term paper for credit in more than one class. Additionally, all papers must be your own original work. You may not use reproductions, work completed by someone else, or purchased work.

In order to ensure that the learning objectives are attained at a satisfactory level the instructor may request that an assignment be re-done, in order to improve its quality and grade. This applies to all assignments except for the final exam and the final draft of the research prospectus.