INTRODUCTION TO RESEARCH IN INFORMATION STUDIES

INF 397C

 # 28035

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School of Information
University of Texas at Austin

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Class time:	Thursday 9:00 AM – 12:00 N
	Final exam on Friday, May 14, 2010, 2:00 – 5:00 PM
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Thou shalt not answer questionnaires
Or quizzes upon World Affairs,
        Nor with compliance
Take any test. Thou shalt not sit
With statisticians nor commit
        A social science.

-- W.H. Auden, excerpted from "Under Which Lyre: A Reactionary Tract for the Times" (Phi Beta Kappa Poem, Harvard 1946)

PLAN OF THE COURSE

Why should information professionals of any kind study research methods, especially empirical social science research methods? Why should they do research? Why should an introduction to research and research methods be required in the master's program in our School?

The critical spirit of inquiry gives the information professional, whether a librarian or not, the opportunity to serve clients better and to perform other organizational tasks. All information professionals must evaluate information services, products, and policies. Understanding how to perform research and to judge the research of others is essential to the success of such evaluations. In addition, information professionals must often write grant proposals and engage in other activities that demand research competencies.

Introduction to Research in Information Studies (INF 397C) is intended to acquaint students with doing, reading, and evaluating research. It aims to help students bring their own and others' research to their professional practice, no matter the setting in which that practice takes place. The four major goals of this course, reflecting the role of research in the master's program at the School of Information, are to:

1. Introduce students to important concepts and techniques in empirical social science research. Although we emphasize quantitative methods in this course for the sake of ensuring some level of "statistical literacy," like many researchers, the instructor takes a catholic approach in his own work, using both qualitative and quantitative methods (what is commonly called methodological pluralism). The course will include discussion of qualitative and historical methods, and you will be encouraged to use those methods as appropriate.

2. Enable students to be more discerning and informed readers of others' empirical research.

3. Help students develop competencies in the planning, description, and completion of empirical research studies, i.e., proposal preparation, instrument design, instrument use, data analysis, and research reporting.

4. Encourage students to do empirical research throughout their professional lives.

With these goals in mind, INF 397C examines:

- Creation of knowledge – how we know and investigate, and what "scientific" research is, especially in information studies. The course explicitly engages the fragility of knowledge and explores how we must act in all sorts of professional situations when we are without the luxury of certainty.

- Evaluating the research of others – how to develop and apply criteria to determine the value and applicability of research in various literatures to particular professional situations.

- Defining a research question – how to develop and operationalize a researchable question. This step is key to the process of systematic inquiry.

- Collection of data – how to use both quantitative and qualitative methodologies, including surveys (especially those that use standardized questionnaires), focus groups, structured interviews, historical research, ethnographic observation, oral history, and bibliometrics, to explore research questions.

- Analysis of data – how to use descriptive statistics, some inferential statistics, and content analysis. One goal of the course is the development of the ability to apply basic statistical techniques to understand phenomena of interest to the information professions.

- Preparation of a research proposal – how to conceptualize, plan, and communicate an investigation of a phenomenon in information studies; students will design an empirical data collection instrument in conjunction with the research proposal.

- Reporting research – how to share the results of research. Students will perform empirical research and report the results.

Although the application of statistical techniques is among the competencies that students will develop in INF 397C, this class is not a course in statistics, and there are no prerequisites for taking it. The only mathematical abilities that you are presumed to possess are:

- Proficiency in the four major arithmetic operations – addition, subtraction, multiplication, and division

- Some measure of facility with fractions, ratios, decimals, percentages, and their equivalence

- Ability to read and generate simple Cartesian planes (x, y coordinates) and other graphic representations

- A command of basic algebra, e.g., you can determine the value of x if $4x = 12$

- The ability to determine squares and square roots using a calculator.

See Spatz (2008) Appendix A, "Arithmetic and Algebra Review," Glossary of Words, and Glossary of Formulas; and Bartz, Appendix 2, "Basic Mathematics Refresher" (1988, pp. 395-427). These resources provide a useful review of fundamental mathematical topics. Previous students, especially those with relatively little mathematical background, have found Rowntree's *Statistics Without Tears* (1981) useful.

STATISTICS: "WHERE SELDOM IS HEARD A DISCOURAGING WORD"

Students often come to this course with mixed expectations and experiences: some may be convinced that they cannot succeed in a course that includes any mathematical material, especially statistics, while other students feel no such anxiety. Mathematics phobia and statistics phobia, however, are fairly common and are often linked to negative expectations, both your own and others'. Try to leave those expectations and experiences behind -- you can and will succeed in this course for a number of reasons:

- The instructor's expectations, while high, are realistic. You will not be asked to do the impossible – only the difficult. You are not expected to be statisticians when you leave the course; rather, you will be expected to understand the basics of descriptive and inferential statistics, to recognize when to use them and when not to, and to develop an understanding of how statistics can be used to good effect in others' research and your own.

- You have proven your competence, both in your undergraduate work and in your GRE scores.

- Mathematics and statistics, in fact, comprise less than half of the course assignments, class time, and grade. There is greater emphasis on writing, critical thinking, and effective integration of ideas about empirical research.

Like most students in INF 397C before you, you will probably find the statistical calculations much easier than you fear, while the conceptual material will demand much more of you. In order to produce a context in which you can succeed and develop a basic familiarity with statistical operations, you have a number of resources available to you this semester:

- A series of practice problems developed by the instructor, involving both calculations and concepts with some answers provided. These exercises are good indicators of many of the kinds of questions that will be on the quiz and examination, and they will help you develop an understanding of fundamental statistical concepts and other important social science research ideas and techniques.

- Seven optional review sessions outside of class time

- Office hours and other (prearranged) group and personal appointments

- Textbooks that provide lucid discussions of appropriate material and a number of practice exercises

- Digital and print materials supplementary to the required and recommended texts

- Encouragement of the formation of statistics study groups to help each other with the material.

In addition to these resources, the in-class quiz and the final examination are designed to provide you with the opportunity to demonstrate what you know, not to torment you about what you do not know. The in-class quiz will take place about halfway through the semester, while the exam will occur after the last day of class. Both will emphasize critical thinking and analysis, not rote learning. Thus, like the previous examinations on reserve at PCL, they will consist of two major parts: calculations and concepts.

You will be allowed to use your notes, textbooks, calculator, and other resources to work on the first part (the calculations); anything except another person or communication device like a cell phone, computer, or PDA of any kind. Feel free to ask about these and related topics at any time.

It is important for you to remember that the instructor cannot and will not teach you statistics; you will teach yourself, and, as members of the class, you will teach each other. You can do well in the class, especially if you meet the instructor's expectations and maximize your use of the study hints discussed below.

EXPECTATIONS OF STUDENTS' PERFORMANCE

Students are expected to be involved, creative, and vigorous participants in class discussions and in the overall conduct of the class. In addition, students are expected to:

- Attend all class sessions. If a student misses a class, it is her responsibility to arrange with another student to obtain all notes, handouts, and assignment sheets.

- Read all material prior to class. Students are expected to use the course readings to inform their classroom participation and their writing. Students must integrate what they read with what they say and write. This last imperative is essential to the development of professional expertise and to the development of a collegial professional persona.

- Educate themselves and their peers. Successful completion of graduate programs and participation in professional life depend upon a willingness to demonstrate initiative and creativity. Participation in the professional and personal growth of colleagues is essential to one's own success as well as theirs. Such collegiality is at the heart of scholarship, so some assignments are designed to encourage collaboration.

- Spend at least 3-4 hours in preparation for each hour in the classroom; therefore, a 3-credit graduate hour course requires a minimum of 10-12 hours per week of work outside the classroom.

- Participate in all class discussions.

- Complete all assignments on time. Late assignments will not be accepted except in the limited circumstances noted in the section below about Assignments. Failure to complete any assignment on time will result in a failing grade for the course.

- Be responsible with collective property, especially books and other material on reserve.

- Ask for help from the instructor or the teaching assistant, either in class, during office hours, on the telephone, through email, or in any other appropriate way. Email is especially appropriate for information questions, but the instructor limits access to email outside the office. Unless there are compelling privacy concerns, it is always wise to send an additional copy of any email intended for the instructor to the TA who has access to email more regularly.

Academic dishonesty, such as plagiarism, cheating, or academic fraud, is intolerable and will incur severe penalties, including failure for the course. If there is concern about behavior that may be academically dishonest, consult the instructor. Students should refer to the UT General Information Bulletin, Appendix C, Sections 11-304 and 11-802 and *Texas is the Best . . . HONESTLY!* (1988) by the Cabinet of College Councils and the Office of the Dean of Students.

The instructor is happy to provide all appropriate accommodations for students with documented disabilities. The University's Office of the Dean of Students at 471.6259, 471.4641 TTY, can provide further information and referrals as necessary.

STUDY HINTS

Students who succeed in this class ordinarily:

- Complete readings and other assignments promptly
- Use my office hours and make other appointments
- Form groups for the research project early
- Read, reread, and rereread assignments, especially statistics material
- Review the online tutorials and related material individually and in study groups
- Write multiple drafts of papers and proofread them carefully -- as Howard Becker says in *Writing for Social Scientists*, "the only version that counts is the last one" (1986, p. 21)
- Form study groups -- meet often and talk not only about the statistical calculations but about methods and statistical concepts as well
- Ask colleagues to review and edit their written work; such activity is the professional norm and an important component of academic life -- it is not cheating -- just be certain that all work you submit under your name is really your own
- Prepare statistics "crib sheets" with formulae, relationships, definitions, and so on
- Do all sections of all the practice exercises
- Participate in the review sessions
- Use the TA, especially for understanding my expectations; the TA will set up regular office hours
- Use the supplementary materials on Reserve at PCL, especially the model student papers and previous exams and quizzes.

STANDARDS FOR WRITTEN WORK

You will meet professional standards of clarity, grammar, spelling, and organization in writing. Review these standards before and after writing; I use them to evaluate your work.

Every writer is faced with the problem of not knowing what her audience knows; therefore, effective communication depends upon maximizing clarity. Wolcott in *Writing Up Qualitative Research* (1990, p. 47) reminds us: "Address . . . the many who do not know, not the few who do." Remember that clarity of ideas, of language, and of syntax are mutually reinforcing.

Good writing makes for good thinking and vice versa. Recall that writing is a form of inquiry, a way to think, not a reflection of some supposed static thought "in" the mind. Theodore Dreiser's *Sister Carrie* shows how this process of composition and thought works (1994, p. 144):

> Hurstwood surprised himself with his fluency. By the natural law which governs all effort, what he wrote reacted upon him. He began to feel those subtleties which he could find words to express. With every word came increased conception. Those inmost breathings which thus found words took hold upon him.

We need not adopt Dreiser's breathless metaphysics or naturalism to understand the point.

All written work for the class must be done on a word-processor and double-spaced, with 1" margins all the way around and in either 10 or 12 pt. font.

Some writing assignments will demand the use of notes (either footnotes or endnotes) and references. It is particularly important in professional schools such as the School of Information that notes and references are impeccably done. Please use APA (American Psychological Association) standards. There are other standard bibliographic and note formats, for example, in engineering and law, but social scientists and a growing number of humanists use APA. Familiarity with standard formats is essential for understanding others' work and for preparing submissions to journals, funding agencies, professional conferences, and the like. You may also want to consult the *Publication Manual of the American Psychological Association* (2001, 5th ed.).

DO NOT USE A GENERAL DICTIONARY OR ENCYCLOPEDIA FOR DEFINING TERMS IN GRADUATE SCHOOL OR IN PROFESSIONAL WRITING. If you want to use a reference source to define a term, use a specialized dictionary such as *The Cambridge Encyclopedia of Philosophy* or subject-specific encyclopedia, e.g., the *International Encyclopedia of the Social and Behavioral Sciences*. The best alternative, however, is having an understanding of the literature related to the term sufficient to provide a definition in the context of that literature.

Use a standard spell checker, but be aware that spell checking dictionaries have systematic weaknesses: they exclude most proper nouns, e.g., personal and place names; they omit most technical terms; they omit most foreign words and phrases; and they cannot identify the error in using homophones, e.g., writing "there" instead of "their," or in writing "the" instead of "them."

It is imperative that you **PROOFREAD YOUR WORK THOROUGHLY AND BE PRECISE IN EDITING IT**. It is often helpful to have someone else read your writing, to eliminate errors and to increase clarity. Finally, each assignment should be handed in with a title page containing your full name, the date, the title of the assignment, and the class number (INF 397C). If you have any questions about these standards, I will be pleased to discuss them with you at any time.

Remember, every assignment must include a title page with:

- The title of the assignment
- Your name
- The date
- The class number – INF 397C.

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Since the production of professional-level written work is one of the aims of the class, I will read and edit your work as the editor of a professional journal or the moderator of a technical session at a professional conference would. The reminders below will help you prepare professional written work appropriate to any situation. Note the asterisked errors in #'s 3, 4, 9, 11, 12, 15, 16, 19, 21, and 25 (some have more than one error):

1. Staple all papers for this class in the upper left-hand corner. Do not use covers, binders, or other means of keeping the pages together.

2. Number all pages after the title page. Notes and references do not count against page limits.

3. Use formal, academic prose. Avoid colloquial language, *you know?* It is essential in graduate work and in professional communication to avoid failures in diction – be serious and academic when called for, be informal and relaxed when called for, and be everything in between as necessary. For this course, avoid words and phrases such as "agenda," "problem with," "deal with," "handle," "window of," "goes into," "broken down into," "viable," and "option."

4. Avoid clichés. They are vague, *fail to "push the envelope," and do not provide "relevant input."*

5. Avoid computer technospeak like "input," "feedback," or "processing information" except when using such terms in specific technical ways.

6. **Avoid using "content" as a noun.**

7. Do not use the term "relevant" except in its information retrieval sense. Ordinarily, it is a colloquial cliché, but it also has a strict technical meaning in information studies.

8. Do not use "quality" as an adjective; it is vague, cliché, and colloquial. Instead use "high-quality," "excellent," "superior," or whatever more formal phrase you deem appropriate.

9. Study the APA style convention for the proper use of ellipsis*. . . .*

10. Avoid using the terms "objective" and "subjective" in their evidentiary senses; these terms entail major philosophical, epistemological controversy. Avoid terms such as "facts," "factual," "proven," and related constructions for similar reasons.

11. Avoid contractions. *Don't* use them in formal writing.

12. Be circumspect in using the term "this," especially in the beginning of a sentence. *THIS* is often a problem because the referent is unclear. Pay strict attention to providing clear referents for all pronouns. Especially ensure that pronouns and their referents agree in number; e.g., "each person went to their home" is a poor construction because "each" is singular, as is the noun "person," while "their" is a plural form. Therefore, either the referent or the pronoun must change in number.

13. "If" ordinarily takes the subjunctive mood, e.g., "If he were [not "was"] only taller."

14. Put "only" in its appropriate place, near the word it modifies. For example, it is appropriate in spoken English to say that "he only goes to Antone's" when you mean that "the only place he frequents is Antone's." In written English, however, the sentence should read "he goes only to Antone's."

15. Do not confuse possessive, plural, or contracted forms, especially of pronouns. *Its* bad.

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16. Do not confuse affect/effect, compliment/complement, or principle/principal. Readers will not *complement* your work or *it's* *principle* *affect* on them.

17. Avoid misplaced modifiers; e.g., it is inappropriate to write the following sentence: As someone interested in the history of Mesoamerica, it was important for me to attend the lecture. The sentence is inappropriate because the phrase "As someone interested in the history of Mesoamerica" is meant to modify the next immediate word, which should then, obviously, be both a person and the subject of the sentence. It should modify the word "I" by preceding it immediately. One good alternative for the sentence is: As someone interested in the history of Mesoamerica, I was especially eager to attend the lecture.

18. Avoid use of "valid," "parameter," "bias," "reliability," and "paradigm," except in limited technical ways. These are important research terms and should be used with precision.

19. Remember that the words "data," "media," "criteria," "strata," and "phenomena" are all PLURAL forms. They *TAKES* plural verbs. If you use any of these plural forms in a singular construction, e.g., "the data is," you will make the instructor very unhappy :-(.

20. "Number," "many," and "fewer" are used with plural nouns (a number of horses, many horses, and fewer horses). "Amount," "much," and "less" are used with singular nouns (an amount of hydrogen, much hydrogen, and less hydrogen). Another useful way to make this distinction is to recall that "many" is used for countable nouns, while "much" is used for uncountable nouns.

21. *The passive voice should generally not be used.*

22. "Between" is used with two alternatives, while "among" is used with three or more.

23. Generally avoid the use of honorifics such as Mister, Doctor, Ms., and so on when referring to persons in your writing, especially when citing their written work. Use last names and dates as appropriate in APA.

24. There is no generally accepted standard for citing electronic resources. If you cite them, give an indication, as specifically as possible, of:

    - responsibility (who?)
    - title (what?)
    - date of creation (when?)
    - date viewed (when?)
    - place to find the source (where? how?).

    See the *Publication Manual of the American Psychological Association* (2001, 5th ed., pp. 213-214, 231, and 268-281) for a discussion of citing electronic material and useful examples. Also see Web Extension to American Psychological Association Style (WEAPAS) at http://www.beadsland.com/weapas/#SCRIBE for more guidance.

25. *PROFREAD! PROOFREED! PROOOFREAD!*

26. Citation, quotation, and reference are nouns; cite, quote, and refer to are verbs.

27. Use double quotation marks ("abc."), not single quotation marks ('xyz.'), as a matter of course. Single quotation marks are to be used to indicate quotations within quotations.

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28. Provide a specific page number for all direct quotations. If the quotation is from a Web page or other digital source, provide at least the paragraph number and/or other directional cues, e.g., "(Davis, 1993, section II, ¶ 4)."

29. In ordinary American English, as ≠ because.

30. Use "about" instead of the tortured locution "as to."

31. In much of social science and humanistic study, the term "issue" is used in a technical way to identify sources of public controversy or dissensus. Please use the term to refer to topics about which there is substantial public disagreement, NOT synonymously with general terms such as "area," "topic," or the like.

32. On a related note, avoid the locution of "public debate." Such a locution makes a series of faulty assumptions:

    - It presumes that a public policy issue has only two "sides." There are usually three or four or more perspectives on any topic of public dissensus that merit consideration. "Debate" hides this complexity.
    - "Debate" implies that one "side" and only one "side" can be correct; that presumption ignores the fact that the many perspectives on a public policy issue have contributions to make to its resolution.
    - "Debate" implies that there can be and will be one and only one "winner." This presumption naively ignores the fact that some public policy issues are intractable, that these issues are often emergent as are their resolutions, and that compromise is success rather than failure or "surrender."

33. Please do not start a sentence or any independent clause with "however."

34. Avoid the use of "etc." – it is awkward, colloquial, and vague.

35. Do not use the term "subjects" to describe research participants. "Respondents," "participants," and "informants" are preferred terms and have been for decades.

36. Do not use notes unless absolutely necessary, but, if you must use them, use endnotes not footnotes.

37. Please adhere to these orthographic (spelling) conventions:

    - Web with a capital "W."
    - Web site, two words, with a capital "W."
    - Internet with a capital "I" to indicate the TCP/IP-compliant computer network with a shared address convention. Otherwise, internet with a lower-case "i" simply means any of the many millions of networks of networks.

SOME EDITING CONVENTIONS FOR STUDENTS' PAPERS

Symbol	Meaning
#	number OR insert a space; the context will help you decipher its meaning
AWK	awkward and usually compromises clarity as well
BLOCK	make into a block quotation without external quotation marks; do so with quotations ≥ 4 lines
caps	capitalize
COLLOQ	colloquial and to be avoided
dB	database
FRAG	sentence fragment; often means that the verb or subject of the sentence is missing
ITAL	italicize
j	journal
lc	make into lower case
lib'ship	librarianship
org, org'l	organization, organizational
PL	plural
Q	question
Q'naire	questionnaire
REF?	what is the referent of this pronoun? to what or whom does it refer?
RQ	research question
sp	spelling
SING	singular
w/	with
w.c.?	word choice?

The instructor also uses **check marks** to indicate that the writer has made an especially good point. **Wavy lines** indicate that usage or reasoning is suspect.

GRADING

Grades for this class include:

A+	Extraordinarily high achievement	not recognized by the University
A	Superior	4.00
A-	Excellent	3.67
B+	Good	3.33
B	Satisfactory	3.00
B-	Barely satisfactory	2.67
C+	Unsatisfactory	2.33
C	Unsatisfactory	2.00
C-	Unsatisfactory	1.67
F	Unacceptable and failing.	0.00.

See the memorandum from former Dean Brooke Sheldon dated August 13, 1991, and the notice in the School of Information student orientation packet for explanations of this system. Consult the iSchool Web site (http://www.ischool.utexas.edu/programs/general_info.php) and the *Graduate School Catalogue* (e.g., http://registrar.utexas.edu/catalogs/grad07-09/ch01/ch01a.grad.html#The-Nature-and-Purpose-of-Graduate-Work and http://registrar.utexas.edu/catalogs/grad07-09/ch01/ch01b.grad.html#Student-Responsibility) for more on standards of work. While the University does not accept the grade of A+, the instructor may assign the grade to students whose work is extraordinary.

The grade of B signals acceptable, satisfactory performance in graduate school. The instructor reserves the grade of A for students who demonstrate not only a command of the concepts and techniques discussed but also an ability to synthesize and integrate them in a professional manner and communicate them effectively, successfully informing the work of other students.

The grade of incomplete (X) is reserved for students in extraordinary circumstances and must be negotiated with the instructor before the end of the semester. See the former Dean's memorandum of August 13, 1991, available from the main iSchool office.

The instructor uses points to evaluate assignments, not letter grades. He uses an arithmetic – not a proportional – algorithm to determine points on any assignment. For example, 14/20 points on an assignment does NOT translate to 70% of the credit, or a D. Instead 14/20 points is roughly equivalent to a B. If any student's semester point total ≥ 90 (is equal to or greater than 90), then s/he will have earned an A of some kind. If the semester point total ≥ 80, then s/he will have earned at least a B of some kind. Whether these are A+, A, A-, B+, B, or B- depends upon the comparison of point totals for all students. For example, if a student earns a total of 90 points and the highest point total in the class is 98, the student would earn an A-. If, on the other hand, a student earns 90 points and the highest point total in the class is 91, then the student would earn an A. This system will be further explained throughout the semester.

TEXTS AND OTHER TOOLS

There are two required texts for this class and four recommended texts. All six can be purchased at the Co-op. As many of the readings as possible will be on reserve at PCL; these readings, naturally, should be supplemented as a student's interests dictate by material in print and online.

The **REQUIRED** texts are:

Creswell, John W. (2009). *Research design: Qualitative, quantitative, and mixed methods approaches* (3rd ed.). Los Angeles: Sage.

Katzer, Jeffrey, Cook, Kenneth H., & Crouch, Wayne W. (1998). *Evaluating information: A guide for users of social science research* (4th ed.). Boston: McGraw-Hill.

The **RECOMMENDED** texts are:

Babbie, Earl. (2007). *The practice of social research* (11th ed.). Belmont, CA: Wadsworth.

Neuman, W. Lawrence. (2007). *Basics of social research: Qualitative and quantitative approaches* (2nd ed.). Boston: Pearson.

Spatz, Chris. (2008). *Basic statistics: Tales of distributions* (9th ed.). Pacific Grove, CA: Brooks/Cole.

Trochim William K., & Donnelly, James P. (2007). *The research methods knowledge base* (3rd ed.). Mason, OH: Thomson. See **http://www.socialresearchmethods.net/**

If you buy any of these books, be certain to buy only the 3rd edition of Creswell (2009); the 4th edition of Katzer, Cook, and Crouch (1998); the 2nd edition of Neuman (2007); the 9th edition of Spatz (2008); and the 11th edition of Babbie (2007), even though there is a 12th edition of Babbie published in 2010. Copies of as many of these materials as possible are on two-hour reserve at PCL. Students should be aware of their classmates' needs to see the reserve material.

Several instructors at the School of Information and others elsewhere at UT have used:

Bartz, Albert E. (1988). *Basic statistical concepts* (3rd ed.). New York: Macmillan. Appendix 2, "Basic Mathematics Refresher," pp. 395-427, is especially useful for those who would like some review of various mathematical concepts and techniques. Other parts of the book are valuable as well.

Busha, Charles H., & Harter, Stephen P. (1980). *Research methods in librarianship: Techniques and interpretation*. New York: Academic Press. It, too, is a useful book in parts.

Vaughn, Liwen. (2001). *Statistical methods for the information professional: A practically painless approach to understanding, using, and interpreting statistics.* Medford, NJ: Information Today.

None of these three books must be bought, and all three will be on reserve at PCL.

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Other tools

- Three of the recommended textbooks (Babbie, Spatz, and Trochim & Donnelly) have substantial electronic supplements:

  - Babbie (2007) includes a CD-ROM inside the text with substantial supporting materials, including links to the Web.

  - Spatz (2008) is complemented by material at the publisher's Web site. You will want to look especially at the kinds of "workshops" there: (1) Research Methods Workshops (**http://www.wadsworth.com/psychology_d/templates/student_resources/workshops/resch_wrk.html**) and (2) Statistics Workshops (**http://www.wadsworth.com/psychology_d/templates/student_resources/workshops/stats_wrk.html**), as we progress through the semester.

  - Trochim & Donnelly (2007) appears entirely online and is supplemented by a lot of valuable material on the Web.

  Please remember that some of the terms, definitions, procedures, and epistemological assumptions discussed in the class, in the textbooks, and elsewhere are contentious. You will find some important differences between the instructor's conventions and those of any particular source, as you will among the sources themselves. **LEARNING TO NAVIGATE THIS SEA OF UNCERTAINTY, BUT STILL ADHERE TO RIGOROUS STANDARDS FOR DOING AND READING RESEARCH, SHOULD BE ONE OF YOUR AIMS IN THE COURSE.**

- You should purchase or borrow a reasonably priced electronic calculator (less than $25.00) with appropriate arithmetic functions, including addition, subtraction, multiplication, division, squaring, and taking a square root. A machine with memory, trigonometric, or statistical functions is valuable but not required.

- Several 30-minute videotapes from the series *Against All Odds: Inside Statistics* are on reserve in the Fine Arts Library. The tapes with asterisked numbers below may have particular value for you:

  * 2 Picturing Distributions
  4 Normal Distributions
  11 The Question of Causation
  * 14 Samples and Surveys
  * 19 Confidence Intervals
  20 Significance Tests.

  See **http://www.dartmouth.edu/~chance/ChanceLecture/Against.All.Odds.htm** for a time and subject index for the entire video series.

- You will also have at your disposal online tutorials, online notes and tapes, and (optional) review sessions to help prepare assignments and prepare for the final exam. See the class schedule online for the locations of the Web-based review material – **http://www.ischool.utexas.edu/~lis397pd/tutorials.html** – and use them as you see fit for individual and group study.

ASSIGNMENTS

The instructor will provide additional information about each assignment. All assignments must be completed to pass the course. Written assignments are done either individually (**IND**) or by a group (**GRP**), are to be double-spaced, and must be submitted in class unless otherwise indicated.

Assignment	**Date Due**	**% of Grade**
Preparation and participation		5%
In-class evaluation of Stieve & Schoen (2006) **GRP**	FEB 11	----
Evaluation of empirical research article (5-7 pp.) **IND**	FEB 18, in class	20
Approved proposal topic and abstract **GRP**	FEB 25, in class	----
In-class quiz **IND**	MAR 11	20
Draft of research proposal and empirical data collection instrument (≥6 pp.) **GRP**	APR 15, in class	----
Research proposal (15-18 pp.) **GRP**	MON, MAY 10, 3:00 PM	20
Empirical data collection instrument and data report **GRP**	MON, MAY 10, 3:00 PM	5
Final exam **IND**	FRI, MAY 14, 2:00 – 5:00 PM	30

All assignments must be handed in on time, and the instructor reserves the right to issue a course grade of F if **ANY** assignment is not completed. Late assignments will not be accepted unless three criteria are met:

1. At least 24 hours before the date due, the instructor gives explicit permission to the student to hand the assignment in late. This criterion can be met only in the most serious of health, family, or personal situations.

2. At the same time, a specific date and time are agreed upon for the late submission.

3. The assignment is submitted on or before the agreed-upon date and time.

OUTLINE OF COURSE

Class	Date	Topics and assignments
1	JAN 21	Introduction to the course -- Review of the syllabus The research process -- What it is and what it aims to do Introduction to variables and univariate descriptive statistics Frequency distributions
2	JAN 28	Science: (1) Traditional positivism and (2) more constructivist views Epistemology and the research process Descriptive statistics continued -- Three major measures of central tendency (mode, median, and arithmetic mean)
3 **REVIEW**	FEB 4	Error model of research Reliability and (construct) validity of measurements Qualitative alternatives to reliability and validity of measurements Descriptive statistics continued -- Three major measures of dispersion or variability (range, variance, and standard deviation) and two minor ones (interquartile range [IQR] and coefficient of variation [CV]) **Group meetings**
4	FEB 11	Problem identification and research design Conceptualization of a study and operationalization of variables Statistics as a rhetorical act **Group meetings** • **In-class exercise -- Evaluation of Stieve & Schoen (2006) – GRP**
5 **REVIEW**	FEB 18	Descriptive statistics continued -- Graphic displays, symmetric and skewed distributions, resistant and non-resistant measures, stem-and-leaf plots, the six-figure summary, and box-plots • **ASSIGNMENT DUE: Evaluation of an empirical research article (5-7 pp.) (20%) -- IND**
6	FEB 25	Introduction to data collection techniques -- Unobtrusive measures: historical research, content analysis, and bibliometrics Descriptive statistics continued -- Measures of central tendency and variability -- Percentiles, quartiles, and introduction to z-scores • **ASSIGNMENT DUE: Approved proposal topic and abstract – GRP**

7	MAR 4	Data collection techniques continued -- Obtrusive methods: Surveys and sampling; 1936 *Literary Digest* poll; response bias, non-response bias; evaluation apprehension, expectancy, and social desirability effects Descriptive statistics continued -- z-scores
REVIEW		
		Group meetings
8	MAR 11	Data collection techniques continued -- Obtrusive methods continued: Focus groups and oral history
		• **In-class quiz (20%)**
	MAR 18	**No class – Spring Break**
9	MAR 25	Descriptive statistics continued – Introduction to the normal, area under the normal curve, distribution of sample means, and the Central Limit Theorem
REVIEW		
10	APR 1	More on the normal curve Sampling error Inferential statistics -- Confidence intervals when sigma is known
		Group meetings
11	APR 8	Inferential statistics continued -- Confidence intervals when sigma is unknown (Student's t)
REVIEW		Introduction to statistical significance and hypothesis testing Qualitative research in information-based organizations: More on recording and analyzing qualitative data
		Group meetings
12	APR 15	Inferential statistics continued -- More on statistical significance, hypothesis testing Effect size Type I and Type II errors More on qualitative methods: Writing the qualitative report
		• **ASSIGNMENT DUE: Draft of research proposal (≥6 pp.) -- GRP**
		• **ASSIGNMENT DUE: Draft of empirical data collection instrument – GRP**
13	APR 22	Inferential statistics continued -- The chi square test of independence More on effect size
		Group meetings

14	APR 29	Research ethics Questioning the variables sex, gender, and race
REVIEW		Review of 2000 Florida presidential vote
15	May 6	Course evaluation Disseminating research results
REVIEW		Plato's *Republic*, "Allegory of the Cave"
MON	**MAY 10**	No class – assignment due at 3:00 PM

- **ASSIGNMENT DUE: Research proposal (15-18 pp.) (20%) and empirical data collection instrument and data report (5%) – GRP**

FRI May 14 **2:00 – 5:00 PM – Final exam (30%) – IND**

SCHEDULE

This schedule may be adjusted as the class progresses. **GRP** indicates a group assignment, **AS** additional sources, and **CD** a source in Course Documents in Blackboard. Babbie (2007), Spatz (2008), Trochim & Donnelly (2007), and the additional sources are only suggested.

DATE **TOPICS, ASSIGNMENTS, AND REQUIRED READINGS**

JAN 21

Introduction to the course – Review of the syllabus
The research process – What it is and what it aims to do

Introduction to variables and levels of measurement
Univariate descriptive statistics – Frequency distributions **(online tutorial)**

READ: Babbie, all prefatory material and Chapters 1 and 5 (pp. 136-140)
Hernon (1991b) **CD**
Katzer et al., Preface and Chapters 1, 2, and 10
Spatz, Preface, Chapters 1 and 2 (pp. 24-29), and p. 66 and Appendix A (p. 363) on estimating answers

AS: Trochim & Donnelly (2007), Preface, 1 (pp. 3-13), 3 (pp. 95-97)
Koufogiannakis & Crumley (2006)

JAN 28

Science: (1) Traditional positivism and (2) more constructivist views
Epistemology and the research process

Descriptive statistics continued – Three major measures of central tendency (mode, median, and arithmetic mean)

READ: Babbie, 2
Dervin (1977) **CD**
Harris (1986) **CD**
Katzer et al., 3-5
Spatz, 3 (pp. 40-49)

AS: Paulos (1992), "Mean, Median, and Mode," 141-143; "Gödel and His Theorem," 95-97; "Impossibilities -- Three Old, Three New," 118-120
Trochim & Donnelly (2007), 1 (pp. 13-23, 24-30), 11 (pp. 244-248)

FEB 4 Error model of research
Reliability and (construct) validity of measurements

REVIEW

Considering qualitative alternatives to reliability and validity of measurements or an "end to criteria?"

Descriptive statistics continued – Three major measures of dispersion or variability (range, variance, and standard deviation) and two minor ones (interquartile range [IQR] and coefficient of variation [CV])

Group meetings

READ: Babbie, 5 (pp. 143-149)
Creswell, Analytic Table of Contents of Research Techniques, Preface and 1; skim 2
Katzer et al., 6, 7, and 9
Spatz, 3 (pp. 52-68)

AS: Trochim & Donnelly (2007), 3 (pp. 53-63, 65-68, 80-95), 6 (pp. 148-149)

FEB 11 Question identification and research design
Conceptualization of a study and operationalization of variables

Statistics as a rhetorical act

Group meetings

READ: Babbie, 4 and 5 (pp. 120-143)
Bazerman (1987) **CD**
Best (2001a) **CD**
Stieve & Schoen (2006) **online**
Creswell, 5 and 6
Cronin (1992) **CD**

AS: Madigan et al. (1995)

- **In-class exercise – Evaluation of Stieve & Schoen (2006) – GRP**

FEB 18 Descriptive statistics continued – Graphic displays, symmetric and skewed distributions, resistant and non-resistant measures, stem-and-leaf plots, the six-figure summary, and box-plots

REVIEW

READ: Katzer et al., 8, 11, and 15-18
Spatz, 2 (pp. 34-39 and 47-52) and 4 (pp. 73-76)

AS: Tufte (1983, 1990, and 1997), *passim*
Trochim & Donnelly (2007), 12 (pp. 277-279)

- **ASSIGNMENT DUE: Evaluation of an empirical research article (5-7 pp.) (20%) – IND**

FEB 25 Introduction to data collection techniques – Unobtrusive measures: historical research, content analysis, and bibliometrics

Descriptive statistics continued – Measures of central tendency and variability – Percentiles, quartiles, and introduction to z-scores

Group meetings

READ: Babbie, 11
Bookstein (1985) **online** and **CD**
Creswell, 7; skim 3
Roscoe (1975) **CD**

AS: Trochim & Donnelly (2007), 6 (pp. 150-153)

- **ASSIGNMENT DUE: Approved proposal topic and abstract – GRP**

MAR 4 Data collection techniques continued – Obtrusive methods: Surveys and sampling; 1936 *Literary Digest* poll; response bias, non-response bias;
REVIEW evaluation apprehension, expectancy, and social desirability effects

Descriptive statistics continued -- z-scores **(online tutorial)**

READ: Babbie, 6 (pp. 170-171), 7, 8 (pp. 225-228 and 230-237), 9, 12, and Appendix G (pp. A24-29)
Creswell, 8 (pp. 145-154 and 169-171)
Spatz, 4 (pp. 70-73)
Review Bookstein (1985) on surveys **online** and **CD**

AS: Trochim & Donnelly (2007), 2 (pp. 42-52), 4 (pp. 99-112, 118-124)

MAR 11 Data collection techniques continued – Obtrusive methods continued: Focus groups and oral history

READ: Babbie, 13 and 14
Krueger (1994a, b, c, and d) **CD**
Spatz, 6

- **In-class quiz (20%) – IND**

MAR 18 NO CLASS — SPRING BREAK

MAR 25 Descriptive statistics continued – Introduction to the normal **(online tutorial)**, area under the normal curve, distribution of sample means, and the Central
REVIEW Limit Theorem **(online tutorial)**

READ: Babbie, 7 (pp. 191-197) (review)
Katzer et al., 14 (pp. 171-173)
Spatz, 7 (pp. 141-152)

AS: Paulos (1992), "Statistics -- Two Theorems," pp. 227-230
Trochim & Donnelly (2007), 2 (pp. 46-49)

APR 1 More on the normal curve and distribution

Sampling error

Introduction to inferential statistics **(online tutorial)**

Inferential statistics – Confidence intervals on μ when sigma (σ) is known **(online tutorial)**

Group meetings

READ: Babbie, 7 (pp. 197-199) (review)
Creswell, 8
Spatz, 7 (pp. 152-155 and 159-162)

APR 8 Inferential statistics continued – Confidence intervals on μ when sigma (σ) is unknown (Student's t) **(online tutorial)**

REVIEW

Introduction to statistical significance and hypothesis testing

Qualitative research in information-based organizations: More on recording and analyzing qualitative data

Group meetings

READ: Babbie, 10 and 13 (review)
Creswell, 9
Spatz, 7 (pp. 155-159) and 8 (pp. 166-178)
Rice-Lively (1997b) **CD**
Rice-Lively (1997a) **CD**

AS: Miles & Huberman (1994), *passim*
Trochim & Donnelly (2007), 5 (pp. 141-149) and 13

APR 15 Inferential statistics continued – More on statistical significance, hypothesis testing

Effect size

Type I and Type II errors

READ: Babbie, 16 (pp. 459-466) and 17 (pp. 503-509)
Gorman & Clayton (1997) **CD**
Katzer et al., 13, 14 (pp. 163-167 and 173-176), and p. 68 (note Table 13-1, pp. 154-155)
Spatz, 4 (pp. 76-82), 8 (pp. 178-180, 184-185, and 188-190) and 9 (pp. 191-194, 196-197, 210-211, and 215-221)

AS: Paulos (1992), "Correlation, Intervals, and Testing," pp. 56-58
Paulos (1995), "... Statistical Tests and Confidence Intervals," pp. 151-153
Schwandt (1996)
Trochim & Donnelly (2007), 15

- **ASSIGNMENT DUE: Draft of research proposal (≥6 pp.) – GRP**
- **ASSIGNMENT DUE: Draft of empirical data collection instrument – GRP**

APR 22 Inferential statistics continued – The chi square (χ^2) test of independence **(online tutorial)**

More on effect size

More on qualitative methods: Writing the qualitative report and discussion questions

Group meetings

READ: Babbie, 17 (pp. 488-496)
Berg (1998) **CD**
Creswell, 10
Spatz, 13 (pp. 295-303 and 306-316)

AS: Krueger (2001)

APR 29 Research ethics

REVIEW Questioning the variables sex, gender, and race

Review of 2000 Florida presidential vote (if sufficient time)

READ: Babbie, 3
Creswell, 4 (pp. 87-94)
Milgram (1963) **CD**

AS: Oakley (2000a), *passim*
Oakley (2000b)
Trochim & Donnelly (2007), 1 (pp. 23-24)

MAY 6 Course evaluation

REVIEW Disseminating research results

Plato's *Republic*, "Allegory of the Cave"

READ: Babbie, 15 and 16
McClure (1991) **CD**
Plato (1945) **CD**
Robbins (1992) **CD**
Spatz,15

AS: *Institutional review board procedures manual for faculty, staff, and student researchers with human participants*, Office of Research Support and Compliance, UT Austin
http://www.utexas.edu/research/rsc/humanresearch/manual/ (2008)
UT -Austin Human Subjects Policies and Documents --
http://www.utexas.edu/research/rsc/humanresearch/
Haddow & Klobas (2004)
Jones (1993), *passim*
Trochim & Donnelly (2007), 12

MON MAY 10

- **ASSIGNMENT DUE: Research proposal (15-18 pp.) (20%) – GRP**
- **ASSIGNMENT DUE: Empirical data collection instrument and data report (5%) – GRP**

FRI May 14 **2:00 – 5:00 PM – Final exam (30%) – IND**

There will also be at least seven optional statistics review sessions in UTA 1.212, the regularly scheduled classroom. These sessions will last from 8:00 - 8:45 AM on February 4, February 18, March 4, March 25, April 8, April 29, and May 6.

There will be no negotiation of the date, time, or place of the final exam: Friday, May 14, 2:00 – 5:00 PM, probably in UTA 1.212. The university will announce the place for the examination later in the semester.

OPTIONAL PROBLEMS FROM SPATZ (2008)

Spatz (9th ed., 2008) is only a recommended text, and you should keep in mind that the definitions, conventions, and formulae we use may often differ from Spatz's. At the same time, however, students in previous classes have found the following problems useful, arranged by the order of topics in the syllabus. Please double-check them in case there are any errors.

Date	Chapter(s)	Topic(s)	Problems
1/21	Chapter 1 Chapter 2	introduction frequency distributions	1-10, especially #2 1, 2, 9
1/28	Chapter 3	measures of central tendency	1-3, 5, 7, 8, 10
2/4	Chapter 3	measures of variability	11, 15-18, 21, 24
2/18	Chapter 2 Chapter 4	Cartesian planes, graphing, skewness, box-plots, and measures of central tendency	5 a and b, 6, 7, 14, 16 7
3/4	Chapter 4 Chapter 7	z-scores sampling: representativeness and bias	1-3, 6 4-7
3/11	Chapter 6	probability, the normal distribution	1-5, 7-28
3/25	Chapter 7	sampling distributions, the Central Limit Theorem	8, 10
4/1	Chapter 7	confidence intervals on μ when σ is known	12-14, 17
4/8	Chapter 7	confidence intervals on μ when σ is unknown	25, 28, 30, 31
4/15	Chapter 8 Chapter 9	hypothesis testing statistical significance and power	3, 6, 8, 9 18, 19
4/22	Chapter 13	χ^2	1, 4, 16, 17, 20
5/6	Chapter 15	summary	4, 5, 9, 22, 29

MATHEMATICAL SYMBOLS, ROUNDING, AND SIGNIFICANT FIGURES

$\exists$ there exists, there are

IFF if and only if

$\equiv$ is defined as

$\neq$ is NOT equal to

$>$ is greater than, e.g., $9 > 5$, 9 is greater than 5

$\geq$ is greater than or equal to

$<$ is less than, e.g., $3 < 6$, 3 is less than 6

$\leq$ is less than or equal to

$\approx, \doteq$ is approximately equal to

$\therefore$ therefore

$\downarrow$ rounded down (to the nearest integer/whole number); $\downarrow 9.5 = 9$

We use this particular convention **only in the special case of calculating the median** when N/n is even.

In all other instances, the convention is that 1, 2, 3, or 4 round down to the next lowest number, while 5, 6, 7, 8, and 9 round up to the next highest number, e.g., 3.12 can be rounded to 3.1 or 3.0, 456 to 460 or 500, and 1,234 to 1,230 or 1,200 or 1,000, all depending upon the number of significant figures needed and allowed. For example, the number 11 has two significant figures, the number 2,003 has four significant figures, 2.3 has two significant figures, and 0.031 has three significant figures.

With regard to significant figures and performing calculations, a good heuristic to keep in mind is to add one (1) or at most two (2) significant figures to the number of significant figures in the data. Adding more results in false precision.

CRITICAL ASSESSMENT OF AN EMPIRICAL RESEARCH ARTICLE (DUE THURSDAY, FEBRUARY 18, 2010; 20%)

One of the goals of this course is to enable students to evaluate the results of empirical research of interest to our discipline. This assignment allows students to identify appropriate empirical studies of interest to them in the open literature of information studies and other disciplines, e.g., psychology, history, fine arts, computer science, sociology, and philosophy; to implement the evaluative skills developed in class and in course readings in the assessment of this study; and to develop a concise, informed written assessment of one of those studies. This assignment is intended to help students import the skills developed in this class to their professional lives and to help prepare them for the formal research proposal and empirical data collection instrument which are the capstone of the class.

As Olson (1996, p. 136) says, good researchers can distinguish "what the author was attempting to get some reader to believe from what they themselves . . . [are] . . . willing to believe." He further notes that "Critical reading is the recognition that a text could be taken in more than one way and then deriving the implications suitable to each of those ways of taking and testing those implications against available evidence" (p. 281). We must be that informed, critical, evaluative reader, understanding the roles that various kinds of evidence and our criteria for evaluating evidence play in the assignment of illocutionary force to truth claims (p. 280).

It is wise to start this assignment immediately. In order to complete this assignment successfully, the student should:

- Identify appropriate research journals and/or monographs in the subject area(s) of interest. Hernon (1991b), Stenstrom (1994), Creswell (2009, Chapter 2), and Busha & Harter (Chapter 15) provide some guidance on this score. You may also want to browse in the current serials on the 2nd floor of PCL, in the LIS and other bound serials on the 6th floor of PCL (especially in the T's and Z's), and in other collections in the UT General Libraries. Also browse in the General Libraries OPAC for journal subscriptions; see, e.g., Research by Subject (**http://www.lib.utexas.edu/subject/**) and Find a Journal (**http://www.lib.utexas.edu:9003/sfx_local/a-z/default**).

  Especially take advantage of the remarkable collection of full-text and other indexing databases available to UT users; see, e.g., **http://www.lib.utexas.edu/indexes/**. You might find Library Literature & Information Science Full Text especially valuable.

- Scan through a number of **EMPIRICAL RESEARCH** papers in these sources.

- Choose an **EMPIRICAL STUDY** of particular interest that addresses the use, nature, dissemination, or management of information as an object of study. The study must include the collection and analysis of **EMPIRICAL DATA**. The data, however, need not be quantitative nor be quantitatively analyzed. Please consult the instructor if there is any doubt about an article's suitability for this assignment.

- After several close and critical readings of the paper, use criteria discussed in class and in the readings (including, e.g., Katzer et al., Chapters 16-19; Robbins, 1992, especially pp. 85-86; and Busha & Harter, pp. 27-29 and Chapter 15) to evaluate the research report. Also see Babbie on "Reading Social Research" (2007, pp. 488-496), but be wary of his use of terms such as "objectivity."

The product of this evaluation will be a formal academic paper of **no less than five nor more than seven (≥5, ≤7) double-spaced pages**. Please refer to appropriate style manuals and to the Standards for Written Work while writing.

CONTINUED

Your assessment should have the following components:

- An Introduction of 1-2 pages identifying the importance of the phenomenon to the field, stating your overall thesis with regard to the paper (i.e., is the paper good or not?), presenting a brief summary of the paper, and explicitly identifying the major criteria used to assess the paper. Be sure that these are **evaluative criteria**, not simply a list of topics or sections of the paper.

- An Analysis of 3-4 pages comparing the paper to the evaluation criteria identified in your Introduction and referring to specific elements in the paper to support your assertions. It may be helpful to think of organizing the analysis around the Conceptualization, Operationalization and Methods of Data Collection and Data Analysis, Results, Conclusions, and Supporting Material, e.g., figures, graphs, charts, notes, tables, and appendices. This particular format is **not** required.

- A Conclusion of 1-2 pages giving your overall assessment of the research paper and your specific recommendations to improve the study and/or the paper

- An Appendix containing the complete text of the research paper, including appendices and other supporting material. Please submit all material in 8 1/2" x 11" format.

You may find it helpful to review the six model student papers from previous semesters on reserve at PCL – the papers are in UTNetCAT alphabetically by title and with the instructor as author: "Analysis of Content Analysis of Research Articles in Library and Information Science" (mistakenly entitled "Analysis of Context . . ."), "Analysis of Study of Community Censorship Pressure on Canadian Public Libraries," "Assessment of 'Preservation Analysis and the Brittle Book Problem in Libraries: The Identification of Research-Level Collections,'" "The Eye of the Beholder: Analysis of a Study of the Effect of Subject Matter and Degree of Realism on the Aesthetic Preferences for Paintings," "Library Jargon," and "Public Archives of Canada Collections Survey." Each of the papers is different from the others, but they are all excellent. Do not copy the model papers' approaches; instead, use them to help you understand what the instructor regards as good work and a successful analysis.

If the paper you choose to evaluate uses statistical or other analytic methods with which you are not familiar, do your best to examine their use as carefully as possible given your current state of knowledge. Add a sentence or two to your evaluation that says, in effect, that the author uses some analytic techniques which you are presently unable to evaluate fully, but, e.g., the numbers add up, their use is not clear, their use is clearly explained with a full rationale for use given, the author fails to explain his/her purposes in doing the analysis, and so on. Please be formal in your description of such methods, and remember the strategies for being a skeptical, critical reader of statistics as discussed in Best (2001a) *inter alia*.

Please hand in **two copies** of your full paper. The instructor will grade and return one and keep the other for his files. This assignment is worth 20% of your semester grade.

Late assignments will not be accepted.

RESEARCH PROPOSAL (20%) AND EMPIRICAL DATA COLLECTION INSTRUMENT AND REPORT(5%)

Approved Proposal Topic and Abstract:	February 25, 2010, in class
First Draft Due:	April 15, 2010, in class
Final Draft Due:	**3:00 PM MONDAY, May 10, 2010**

This assignment is the capstone of the course and has two components. It will be done in self-selected groups of 3-4 students, and every member of the group will receive the same grade.

1. The major part of the assignment is a **research proposal** that will result from planning an empirical investigation of a subject related to information studies of interest to the students. Be sure to review Creswell (2009), especially Chapter 4 (pp. 73-87) on writing; Katzer et al. (1998), Chapter 8; Losee and Worley (1993, Chapters 5 and 6); Robbins (1992, pp. 85-86); Cronin (1992); and Busha and Harter (1980, Chapters 1, 14, and 15). Also see Babbie (2007, pp. 503-509) on "Writing Social Research" – his is a useful but not canonical model.

   Discuss how you will analyze the data from the particular instrument described below as well as how your team would analyze the data collected in the larger proposed study.

2. The second part of the assignment is the design and application of an **empirical data collection instrument and a report of the results** from performing one small part of the proposed empirical study. Review Creswell (2009), Babbie (2004) on data analysis, and Busha & Harter (1980), Chapters 2-6 and 15. Please include a schedule for the entire study as an Appendix to the empirical data report.

The **research proposal** will be 15-18 double-spaced pages in length and will include:

- Abstract of the entire proposed study – following Creswell (2009) and other sources, describe the question(s) the study will engage, the case(s) or unit(s) of analysis, data collection methods, and data analysis procedures. Describe the data collection instrument you have designed.

- Statement of the phenomenon of interest – tell the reader exactly what you plan to investigate and why that phenomenon is of interest to information studies. Identify your research questions or your hypotheses in this section, identify major assumptions, and define important terms.

- Literature review – this review will be highly selective, evaluative, and analytic. Give the review a **substantive title**, e.g., "Important Concepts in Academic Library Use." Relate the sources to each other and to the phenomenon of interest. Please limit your discussion to the sources of highest importance to your investigation topically and methodologically. See Katzer et al. (1998, pp. 85-89); Cooper (1984, the Preface and Chapters 1 and 2), especially pp. 25-26; Babbie (2007, pp. 489-496); Creswell (2009, Chapter 2); and Busha and Harter (1980, pp. 347-348). Remember a literature review is not simply a literature search.

- Methodology – describe how you would investigate the topic by specifying the methods of **both data collection and data analysis**. Also give this section a **specific, substantive title**, e.g., "Understanding Visual Artists' Information Behavior." Identify the variable(s) of interest, define them and their relationship (if any), and specify how you would measure them. Remember that "measurement" means systematic observation, not just counting. Include in this section a discussion of the empirical data collection instrument noted below. This section must be specific enough to allow the reader to judge whether your method is appropriate and adequate to understand the phenomenon of interest. Be sure to include a discussion of what data would be gathered **if you were to carry out the entire study** and how they would be analyzed.

CONTINUED

Research Proposal and Empirical Data Collection Instrument and Report (CONTINUED)

- Bibliography – this section will include every source that you cite explicitly in your document and no other. Please ensure that the citation pattern for this bibliography and the notes for the text adhere to APA standards. See the Standards for Written Work in this syllabus.

The **empirical data report** has no page limits and will have the following parts:

- A copy of the empirical data collection instrument.

- A specific description of how the study team used the instrument to gather data, including the identification of the appropriate population(s) and sample group(s), and specifically how the team analyzed the data to address (not answer) your overarching question

- An appropriate verbal/numeric description and summary of the data, e.g., tables, summary figures, descriptive statistics, or inferential statistics. Be certain to label all descriptive parts of the report accurately and fully.

- A graphic representation of the data as appropriate, e.g., bar chart, frequency polygon, or box plot

- A two-page consideration of McClure (1991) and Robbins (1992) about the dissemination of research results. How might you most effectively use their advice to present the results from your data collection? If you were to do the entire study, how might their advice guide your consideration of audiences, methods of presentation, and venues for dissemination?

- An Appendix with a specific schedule stating when the entire study would be done.

Please hand in **two copies** of the final drafts of the research proposal and the empirical data report in the instructor's mailbox in the iSchool workroom on the fifth floor of UTA by 3:00 PM Monday, May 10. The instructor will return one copy of the assignment with a grade and keep the other for his files.

The research plan and empirical data report are worth 25% of your semester grade. To earn these points, the first draft submission date of April 15 in class must also be met.

The preliminary draft of the proposal will be greater than or equal to six (≥6) pages in length and will consist of the following component parts:

- 1 p. abstract of the entire proposed study, not only the part related to the data collection instrument

- ≥2 pp. statement of the phenomenon of interest, the question

- ≥1 p. literature review, a general indication of the kinds of material to be reviewed both methodologically and topically; give this review a substantive title

- ≥2 pp. method(s) of investigation; be specific about analysis of the data from the data collection instrument. This section is very often the weakest in students' and others' proposals – be specific and direct, especially about how you will **ANALYZE** the data you would collect.

- references.

CONTINUED

Hints for a Successful Proposal

A good proposal explicitly addresses the following questions, conceptually linking them together:

1. What is the phenomenon you want to understand? What is your question? It is often helpful to state your research interest as a question. Then the purpose of your proposal is to address that question. Everything in the proposal must contribute to that goal.

2. What concepts are necessary to understand and address the question?

3. How will you operationalize your conceptualization of the question? That is, what will you observe/measure?

4. How will you make the observations/measurements?

5. What about data quality? How will you convince your reader that your observations and interpretations are reasonable and accurate? Please keep three important things in mind: the reliability and (construct) validity of measures; qualitative criteria like credibility, transferability, and trustworthiness; and the controversy about "criteria" for research quality generally.

6. How will you analyze the data from the observations/measurements?

7. How will such analysis address your question?

Be very specific and explicit in considering this list. They are useful guides for your proposal writing and design of the empirical data collection instrument for this class and for the implementation of proposals and the reporting of the results of research more generally. Also see Creswell (2009) and Katzer et al. (1998).

Remember, the proposal and empirical data instrument are rhetorical in nature. Your goal is to convince the instructor about the legitimacy and appropriateness of your phenomenon of interest, your method(s) of investigation, and your methods of data analysis. Demonstrate your ability to participate in the community of professional-level researchers.

REFERENCES

I. Readings from the class schedule and assignments

CD means that a document is in the Course Documents section in Blackboard.

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