INLS 691H
Research Methods

Description

An introduction to research methods used in information science. Includes the writing of a research proposal. This course must be successfully completed by any student wishing to register for INLS 692H Honors Thesis in Information Science.

Goals

I want us to have fun while exploring and learning about research methods. I hope you will gain an understanding of the concepts and terminology used in ILS research and of the methods used to perform this research. I have organized this course around published research (as opposed to a research methods textbook) to better acquaint you with different research specialties and approaches in ILS. I want to help you improve your abilities to consume research and also establish a foundation for you to do your own research in the future.

Requirements

Reading, thinking, discussing, listening, researching and writing.

- You are expected to read the assigned readings by the dates listed on the schedule. This is a very reading-intensive course, so please schedule accordingly.
- This is a small class so your participation is critical. Be prepared to ask questions and discuss the readings in class.
- You will be required to select and research a topic that interests you, pose a research question, design a study to investigate this question and write a proposal.
- Please let me know in advance if you will not be able to attend class.

Evaluation

Your major assignment for this course is to prepare a research proposal. This will be divided into a series of assignments, which build on one another and provide you with an opportunity to refine your ideas through feedback and reflection.

Materials

Readings will be placed in the Sakai site or you will need to obtain them from UNC Library's online collections.

We will read many chapters from:

Wildemuth, B. M. (2009). *Applications of Social Research Methods to Questions in Information and Library Science*. Libraries Unlimited: Westport, CT.

This book is available for purchase at UNC Book Stores and online. It is also on reserve in the SILS Library.

Milestones

September 23, 2013
Initial Ideas

October 25, 2013 (Friday)
Problem Statement and Annotated Bibliography

November 15, 2013 (Friday)
Literature Review

December 10, 2013 (Tuesday, 4 PM)
Final Proposal

Assignments

General Instructions for Assignment Preparation & Submission
- Use the APA style guide to format your papers.
- Proofread and copyedit your papers.
- Submit a PDF to me via email on the date the assignment is due.

Initial Ideas (0%)
This assignment is not worth any points, but it is serves an important purpose: for you to formulate your initial ideas and plans for your research. You will submit a short paper (approximately 1-2 pages single spaced) to me on September 23rd and we will meet in my office to discuss your ideas. You are should schedule a 30-minute appointment to meet with me September 24th-27th.

In your paper, you should identify the general topic of your research, list your ideas about what you might investigate regarding the topic (focus), describe how and why you selected the topic and focus, and identify potential databases and publications (e.g., journals, conferences) that you plan to search. It is okay if you identify several ideas. We can discuss which are the most fruitful and realistic to pursue.

You are not required to provide references, but if there is a specific paper that you have read that resembles what you would like to do, please include a reference to it. You are also not required to formulate a research question, but if you would like to try, I will give you feedback.

Problem Statement (4-5 pages) and Annotated Bibliography (6-8 pages) (30%)
- Introduce and describe the general area and the specific topic of your research.
- Identify and describe the problem that your research question will address. To do this, you should point out limitations of the current state of knowledge (i.e., published research) about your topic.
- State the purpose/objectives of the research and identify 1-3 research questions. If appropriate, include hypotheses.
- Provide preliminary definitions for the main concepts in your study.
- Review and discuss 5 studies from your annotated bibliography that are relevant to your research: summarize each study, point of limitations of each study and indicate how the study informs your research.
- Indicate the importance of your research, describe the potential implications of your research (i.e., how could your findings contribute to a better understanding of the topic) and describe the practical value of your research (e.g., how might your findings improve services or applications).
- Your annotated bibliography should contain 8-10 studies relevant to your research.
- Each annotation should: summarize the study, evaluate the study, identify limitations and open questions, and indicate how the study informs your research.
- Consult the following source for further guidance about how to construct and format your annotated bibliography: http://owl.english.purdue.edu/owl/resource/614/1/

Literature Review (20%) (12-15 pages)
Now you will weave all of the studies from your annotated bibliography into a coherent and compelling narrative that situates your proposed research. You might also have some new studies to include. Your review should include at least 10 research articles from refereed publications.

You should provide Introduction and Conclusion sections. In the Introduction be sure to describe the topic, and state the problem and research question(s) *briefly*. State the goal of the literature review and an overview of what you'll present. In the conclusion, summarize what you found in the literature review. What are the major take-home messages, especially with respect to your topic? One of the major objectives of writing the literature review is to establish a case that your research question is needed/important. After reading a good literature review, the reader should be completely convinced that a particular short-coming exists in the literature and

that your study is needed. The reader should not get to the end of a literature review and still have to guess about what you will tackle in your research.

You are expected to identify major literature pertinent to your research question. A variety of techniques should be used, including (but not limited to) searching the appropriate disciplinary databases and the library catalog, searching the Web, consulting references of items already identified (to find older items), searching appropriate citation indexes (to find newer items), and scanning journal runs of particularly useful journals. My expectation is that most of the articles you include will be from journals or conference proceedings, as these are the key publication venues in information science.

You should select for inclusion only those items that inform your research question or its context in some important way. For example, you would include any similar empirical studies and any published literature reviews on the topic. You would not include brief popular articles that may be of questionable validity (it is okay to include popular press materials in your Introduction, however, to help demonstrate/establish the problem you will address).

When weaving the studies together into a coherent narrative you can take several approaches. Analyze the information you glean from the sources: areas of overlap or repetition indicate established approaches to the research; conflicting or differing perspectives indicate some manner of disagreement; equal representation among several perspectives may indicate competition or a lack of established research priorities. Use your analysis to group the literature into topical or thematic categories. Then use your categories to develop an outline for the review. DO NOT simply provide summaries of the articles or present an annotated bibliography. Find a broad way to functionally describe and relate the literature to your research question.

Making the distinction between what the literature says and what you know about a topic is extremely important in scientific writing. It is because scientists make this distinction that their writing is often filled with hedges - phrases like, "the data suggest," "it has been noted that," "researchers contend that," etc. Rarely will you see phrases like, "it's clear that," "this means," "it is a fact that," etc. in scientific writing, those claims are said to be too strong. Be careful about what you assume is the 'truth.' In general, science is about accumulating evidence that suggests particular things rather than establishing the final truth. Your writing should reflect this idea.

Final Proposal (50%) (25-30 pages)
This is your last step. You are almost there!

Research Proposal
Your Research Proposal consists of parts from your Problem Statement and Literature Review assignments, plus an additional section about your study method and several smaller, summary sections. For the research proposal, I expect you to revise your previous two assignments and incorporate them into the proposal, as well as write several new sections, the most important of which is the method section.

Don't let all of the detailed steps below intimidate you. If you've made it this far, you've already completed about 2/3 of this assignment! Your work for this assignment is primarily crafting the methods section, revising your previous work and putting everything together!

Your proposal should have eight major sections:

1. Title Page (1 page).
2. Abstract: this is a new section and should summarize the contents of your research proposal in 150 words (1 page).
3. Introduction: this consists of a revision of your Problem Statement assignment (Part 1). I expect that this section will be more informed than the one from your Problem Statement assignment since in the interim you've reviewed more literature (presumably your understanding of your topic and problem has changed and sharpened) (approximately 2-3 pages).
4. Literature Review: this consists of a revision of your Literature Review assignment (approximately 10-15 pages).
5. Method: this is a new section (see below for details) (approximately 7-10 pages).
6. Summary and Conclusions: this is a new section; summarize the contents of your proposal and write some concluding remarks (approximately 1-2 pages).

7. References: this consists of a revision of the reference page from your Literature Review assignment (variable length).
8. Appendices (variable length).

Method Section

In preparation for conducting a research study, you will need to make many decisions related to the study design, the sample to be included, the methods you will use for data collection, and the methods you will use for data analysis. Your proposal should provide a detailed description of the methods you plan to use in conducting your study. It should provide enough detail so that a classmate could conduct your study in your absence, exactly as you intended, without having to ask you any questions about what to do. There is likely to be significant variability from person to person in how the methods section will be written up, because it will depend on the research question and study design.

Your method section you should include:

- Description of the sample, population and sampling technique. Description of how and where subjects will be identified and recruited. Indicate who will do the recruiting, and tell how subjects will be contacted (if appropriate). OR description of how artifacts will be sampled and obtained. Description of any inducement for participation and any costs borne by subjects (if appropriate).
- Description of variables and measurement techniques (if appropriate).
- Description of the data collection instruments and materials. You must include a draft of your instrument(s) as an Appendix. For instance, this might include a draft of a survey or questionnaire, an interview schedule, an interface mock-up or all three. In the body of your paper, you should describe and discuss the content of the instruments – for example, if you will conduct a survey, discuss what each of the questions will tell you, why you are asking them and how they relate to one another.
- Detailed, step-by-step, sequential description of your study procedures (i.e. what will happen in your study), including duration of subject participation and location of study (if appropriate).
- Discussion of any possible ethical issues (1-2 paragraphs).
- Preliminary plan for analyzing the data (about 1-2 paragraphs).
- Discussion of the advantages and disadvantages of your study method (this discussion should include general limitations of the method as well as limitations of your particular research study).
- Week-by-week timeline for completing the study. Include this in the Appendix, but refer to it within the text of your method section.

Grading

Grade Range	Definition*
A = 94-100% A- = 90-93.9%	Mastery of course content at the highest level of attainment that can reasonably be expected of students at a given stage of development. The A grade states clearly that the student has shown such <u>outstanding</u> promise in the aspect of the discipline under study that he/she may be strongly encouraged to continue.
B+ = 87-89.9% B = 84-86.9% B- = 80-83.9%	Strong performance demonstrating a high level of attainment for a student at a given stage of development. The B grade states that the student has shown <u>solid</u> promise in the aspect of the discipline under study.
C+ = 77-79.9% C = 74-76.9% C- = 70-73.9%	A <u>totally acceptable</u> performance demonstrating an adequate level of attainment for a student at a given stage of development. The C grade states that, while not yet showing any unusual promise, the student may continue to study in the discipline with reasonable hope of intellectual development.
D+ = 67-69.9% D = 64-66.9% D- = 60-63.9%	A <u>marginal performance</u> in the required exercises demonstrating a minimal passing level of attainment for a student at a given stage of development. The D grade states that the student has given no evidence of prospective growth in the discipline; an accumulation of D grades should be taken to mean that the student would be well advised not to continue in the academic field.
F = 0-59.9%	For whatever reasons, an <u>unacceptable</u> performance. The F grade indicates that the student's performance in the required exercises has revealed almost no understanding of the course content. A grade of F should warrant an adviser's questioning whether the student may suitably register for further study in the discipline before remedial work is undertaken.

*These definitions are from: http://www.unc.edu/faculty/faccoun/reports/2000-01/R2001GradingStandardsAddendum.htm

Schedule

August 21: Introductions and Course Overview

August 26: Overview of Research; Research in Information and Library Science; Research Questions
- Neuman, W. L. (2005). *Social research methods: Qualitative and quantitative approaches (6th Edition)*. Allyn and Bacon Publishing [Ch. 1; parts of Ch. 2; boxes from Ch. 6]. **(Readings Directory)**
- Wildemuth, B. M. (2009). Applications of Social Research Methods to Questions in Information and Library Science. Libraries Unlimited: Westport, CT. [Chapter 2-6].

August 28: No class: Diane in Finland

September 2: No class: Labor Day

September 4: Bibliometrics: An ILS Original!
- Osareh, F. (1996). Bibliometrics, citation analysis and co-citation analysis: A review of the literature I and II. *Libri, 46*, 149-158; 217-225. **(Readings Directory)**
- Lariviere, V., Sugimoto, C. R., & Cronin, B. (2012). A bibliometric chronicling of library and information science's first hundred years. *Journal of the American Society for Information Science & Technology, 63*(5), 997-1016. **(UNC Journals)**
- SKIM: White, H. D. & McCain, K. W. (1998). Visualizing a discipline: An author co-citation analysis of information science, 1972-1995. *Journal of the American Society for Information Science, 49*(4), 327-355. **(UNC Journals)**

September 9: Theory
- Bates, M. J. (2005). An introduction to metatheories, theories and models (Ch. 1). In K. E. Fisher, S. Erdelez, & L. E. F. McKechnie's (Eds.) *Theories of Information Behavior*. ASIST Monograph Series, Information Today, Inc.: Medford, NJ. **(Readings Directory)**
- Kumasi, K. D., Charbonneau, D. H., & Walster, D. (2013). Theory talk in the library science scholarly literature: An exploratory analysis. *Library & Information Science Research, 35*, 175-180. **(UNC Journals)**

September 11: Theory
- Connaway, L. S., Dickey, T. J., & Radford, M. L. (2011). "If it is too inconvenient I'm not going after it:" Convenience as a critical factor in information-seeking behaviors. *Library & Information Science Research, 33*, 179-190. **(UNC Journals)**
- Example Theory: Petty and Cacioppo's Eleboration Likelihood Theory **(Readings Directory)**

September 16: Variables and Hypotheses
- Adler, R. F. & Benbunan-Fich, R. (2013). Self-interruptions in discretionary multitasking. *Computers in Human Behavior, 29*, 1441-1449. **(UNC Journals)**
- Neuman, W. L. (2005). *Social research methods: Qualitative and quantitative approaches (6th Edition)*. Allyn and Bacon Publishing, pgs. 160-166: The Language of Variables and Hypotheses. **(Readings Directory)**
- Salkind, N. J. (2010). Encyclopedia of Research Design. Sage Publications, Inc. **(Available online through UNC Libraries**: **http://knowledge.sagepub.com/view/researchdesign/SAGE.xml**). Read the following entries:
  - Independent Variable
  - Dependent Variable
  - Confounding
- Sproull, N. (1988). Handbook of Research Methods: A Guide for Practitioners in the Social Sciences (pp. 27-35). Scarecrow Press. **(Readings Directory)**

September 18: Variables and Hypotheses
- Salkind, N. J. (2010). Encyclopedia of Research Design. Sage Publications, Inc. Read the following entry:
  - Levels of Measurement

September 23: Literature Reviews, Research Synthesis and Meta-Analysis
- Salkind, N. J. (2010). Encyclopedia of Research Design. Sage Publications, Inc. Read the following entry:
    - Literature Review
- Hornbæk, K. (2006). Current practice in measuring usability: Challenges to usability studies and research. *International Journal of Human-Computer Studies, 64*, 79-102. **(UNC Journals)**
- **Initial Ideas Paper Due**

September 25: Descriptive Statistics
- Sugimoto, C.R., Tsou, A., Naslund, S., Hauser, A., Brandon, M., Winter, D., Behles, C., & Finlay, S.C. (forthcoming). Beyond gatekeepers of knowledge: Scholarly communication practices of academic librarians and archivists at ARL institutions. *College & Research Libraries.* Pre-print: **http://ella.slis.indiana.edu/~sugimoto/preprints/Beyondgatekeepersofknowledge.pdf**.
- Salkind, N. J. (2010). Encyclopedia of Research Design. Sage Publications, Inc. Read the following entry:
    - Statistic
- Wildemuth, B. M. (2009). Applications of Social Research Methods to Questions in Information and Library Science. Libraries Unlimited: Westport, CT. [Chapter 33-34].

September 30: Measurement, Scale Construction and Factor Analysis
- O'Brien, H. L. & Toms, E. G. (2010). The development and evaluation of a survey to measure user engagement. *Journal of the American Society for Information Science & Technology, 61*(1), 50-69. **(UNC Journals)**
- Spector, P. E. (1992). Summated rating scale construction: An introduction. Sage Publications, Inc. **(Available online through UNC Libraries**: **http://srmo.sagepub.com/view/summated-rating-scale-construction/SAGE.xml?rskey=fgA7DU&row=1**)
- Salkind, N. J. (2010). Encyclopedia of Measurement and Statistics. Sage Publications, Inc. [NOTE: different encyclopedia, same author!: **http://knowledge.sagepub.com/view/statistics/SAGE.xml?rskey=MICOQP&row=1**] Read the following entry:
    - Likert Scaling

October 2: Measurement, Scale Construction and Factor Analysis

October 7: Experimental Design
- Salkind, N. J. (2010). Encyclopedia of Research Design. Sage Publications, Inc. Read the following entry:
    - Experimental Design
- Wildemuth, B. M. (2009). *Applications of Social Research Methods to Questions in Information and Library Science*. Information Today (Ch. 11, 12).
- Cyr, D., Head, M., & Larios, H. (2010). Colour appeal in website design within and across cultures: A multi-method evaluation*. International Journal of Human-Computer Studies, 68*, 1-21. **(UNC Journals)**
- Kelly, D., Shah, C., Sugimoto, C. R., Bailey, E. W., Clemens, R. A., Irvine, A. K., Johnson, N. A., Ke, W., Oh, S., Poljakova, A., Rodriguez, M. A., van Noord, M. G., & Zhang, Y. (2008). Effects of performance feedback on users' evaluations of an interactive IR system. *Proceedings of the 2nd Symposium on Information Interaction in Context (IIiX)*, London, UK, 75-82. **(ACM Digital Library)**

October 9: Quantitative Data Analysis
- Wildemuth, B. M. (2009). *Applications of Social Research Methods to Questions in Information and Library Science*. Libraries Unlimited: Westport, CT. [Chapter 36-37].
- Salkind, N. J. (2010). Encyclopedia of Research Design. Sage Publications, Inc. Read the following entry:
    - P-value
    - Degrees of Freedom

October 14: Log Studies and Quantitative Data Analysis
- Wildemuth, B. M. (2009). *Applications of Social Research Methods to Questions in Information and Library Science.* Information Today (Ch. 18).
- Dumais, S., Jeffries, R., Russell, D. M., Tang, D. & Teevan, J. (forthcoming). Understanding user behavior through log data and

analysis. J.S. Olson and W. Kellogg (Eds.), *Human Computer Interaction Ways of Knowing*. New York: Springer, 2014. **(Readings Directory)**
- Bateman, S., Teevan, J., & White, R. W. (2012). The search dashboard: How reflection and comparison impact search behavior. *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems (CHI '12)*, Austin, TX, 1785-1794. **(ACM Digital Library)**

October 16: Log Studies and Quantitative Data Analysis
- McLaughlin, M., Goldberg, S. B., Ellison, N., & Lucas, J. (1999). Measuring Internet audiences: Patrons of an online art museum. In S. Jones Doing Internet Research: Critical Issues and Methods for Examining the Net. Sage Publications, Inc. (Available online through UNC Libraries: http://knowledge.sagepub.com/view/doing-internet-research/n8.xml)**.**
- White, R. W. & Huang, J. (2010). Assessing the scenic route: Measuring the value of search trails in Web logs. *Proceedings of the ACM Conference on Research and Development in Information Retrieval (SIGIR '11)*, Geneva, Switzerland, 587-594. **(ACM Digital Library)**

October 21: Sampling for Quantitative Studies
- Wildemuth, B. M. (2009). *Applications of Social Research Methods to Questions in Information and Library Science*. Information Today (Ch. 13).
- Salkind, N. J. (2010). Encyclopedia of Research Design. Sage Publications, Inc. Read the following entry:
  - Sampling
  - Sample Size Planning
  - Sample Size
  - Effect Size, Measures of

October 23: Sampling Issue: "Crowdsourcing" and Automatic Classification
- Sood, S. O., Antin, J., & Churchill, E. F. (2012). Profanity use in online communities. *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems (CHI '12)*, Austin, TX, 1481-1490. **(ACM Digital Library)**
- Amazon Mechanical Turk. Wikipedia entry: http://en.wikipedia.org/wiki/Amazon_Mechanical_Turk
- Ross, J., Zaldivar, A., Irani, L., Tomlinson, B., & Silberman, M. S. (2010). Who are the Crowdworkers? Shifting demographics in Mechanical Turk. *Proceedings of the ACM SIGCHI Conference on Human Factors in Computing Systems (CHI '10) Extended Abstracts*, Atlanta, GA, 2863-2872. **(ACM Digital Library)**

October 25: Problem Statement and Annotated Bibliography Due

October 28: No class: Diane in Germany
October 30: No class: Diane in Germany

November 4: Surveys
- Wildemuth, B. M. (2009). *Applications of Social Research Methods to Questions in Information and Library Science*. Information Today (Ch. 26).
- Dillman, D. A., Smyth, J. D., & Christian, L. M. (2009). Internet, Mail and Mixed-Mode Surveys (3rd Edition). John Wiley & Sons, Inc.: Hoboken, NJ. Chapters 1, 3-5. **(Readings Directory)**

November 6: Surveys and Social Network Analysis
- Hampton, K. N., Sessions, L. F., & Her, E. J. (2011). Core networks, social isolation and new media*. Information, Communication & Society, 14*(1), 130-155. Available online: http://www.tandfonline.com/doi/full/10.1080/1369118X.2010.513417
- Review the survey questions and full report, pay close attention to material in the full report related to the Method: Hampton, K., Goulet, L. S., Her, E. J., & Rainie, L. (2009). *Social Isolation and New Technology*. Pew Internet & American Life Project. http://pewinternet.org/Reports/2009/18--Social-Isolation-and-New-Technology.aspx
- Garton, L., Haythornthwaite, C., & Wellman, B. (1999). Chapter 4: Studying online social networks. In S. Jones Doing Internet Research: Critical Issues and Methods for Examining the Net. Sage Publications, Inc. (Available online through UNC Libraries: http://knowledge.sagepub.com/view/doing-internet-research/n4.xml).

November 11: Interviews
- Wildemuth, B. M. (2009). *Applications of Social Research Methods to Questions in Information and Library Science*. Information Today (Ch. 24).
- St. Jean, B. (forthcoming). Participant reactivity in a longitudinal mixed-method study of the information behavior of people with Type 2 diabetes: Research validity vs. "Street Validity." To appear at the *ASIST 2013 Conference*, Montreal, Quebec, Canada. **(Readings Directory)**

November 13: Focus Group Interviews
- Wildemuth, B. M. (2009). *Applications of Social Research Methods to Questions in Information and Library Science*. Information Today (Ch. 25).
- Agosto, D. E. (2002). Bounded rationality and satisficing in young people's web-based decision making. *Journal of the American Society for Information Science & Technology, 53*(1), 16-27. **(UNC Journals)**

November 15: Literature Review Due

November 18: Interview Design & Sampling
- Rubin, H. J., & Rubin, I. S. (2005). Structuring the interview. In *Qualitative Interviewing: The Art of Hearing Data (2nd. ed.)*, (Ch. 7). **(Readings Directory)**
- Wildemuth, B. M. (2009). *Applications of Social Research Methods to Questions in Information and Library Science*. Information Today (Chs. 14 & 15).
- Beitin, B. K. (2012). Interview and sampling: How many and whom. In J. F. Gubrium, J. A. Holstein, A. B. Marvasti, & K. D. McKinney (Eds.) The SAGE Handbook of Interview Research: The Complexity of the Craft. Sage Publications, Inc. (Available online through UNC Libraries: http://knowledge.sagepub.com/view/hdbk_interviewresearch2ed/n17.xml).

November 20: Qualitative Data Analysis
- Wildemuth, B. M. (2009). *Applications of Social Research Methods to Questions in Information and Library Science*. Information Today (Ch. 30).
- Rubin, H. J., & Rubin, I. S. (2005). The first phase of analysis. In *Qualitative Interviewing: The Art of Hearing Data (2nd. ed.)*, (Ch. 10). **(Readings Directory)**
- Rubin, H. J., & Rubin, I. S. (2005). Analyzing coded data. In *Qualitative Interviewing: The Art of Hearing Data (2nd. ed.)*, (Ch. 11). **(Readings Directory)**

November 25: "Ethnography," Diaries and Experience Sampling
- Mizrachi, D. & Bates, M. J. (2013). Undergraduates' personal academic information management and the consideration of time and task-urgency. *Journal of the American Society for Information Science & Technology, 64*(8), 1590-1607.
- Wildemuth, B. M. (2009). *Applications of Social Research Methods to Questions in Information and Library Science*. Information Today (Ch. 22).
- Larson, R. & Csikszentmihalyi, M. (1983). The experience sampling method. In H. T. Reis (Ed.) *Naturalistic Approaches to Studying Social Interaction*, (pp. 41-56). San Francisco: Jossey-Bass. **(Readings Directory)**

November 27: No class: Thanksgiving Holiday

December 2: Ethics
- Neuman, W. L. (2005). *Social research methods: Qualitative and quantitative approaches (6th Edition)*. Allyn and Bacon Publishing (Ch. 5, pgs. 129-147). **(Readings Directory)**
- Williams, P., Block, L. G., & Fitzsimons, G. J. (2006). Simply asking questions about health behaviors increases both healthy and unhealthy behaviors. *Social Influence, 1*(2), 117-127. **(Reading Directory)**

December 4: Proposal Workshop

December 10: Proposals Due