INLS 780-003 Research Methods (Fall 2013)

SEMESTER: Fall 2013

TIME: Thursday, 2:00-4:30 PM LOCATION: Manning Hall, Room 307

COURSE WEBSITE: https://www.unc.edu/sakai/

Instructor: Joanne Gard Marshall, Professor

EMAIL: marshall@ils.unc.edu

(See page 15 of this syllabus for notes regarding use of email.)

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Description

780 Research Methods (3). Prerequisite: Completion of twelve semester hours including INLS 500 and (INLS 501 or 509). An introduction to research methods used in library and information science. Includes the writing of a research proposal.

Objectives

As a basis for evidence-based practice, students will gain an understanding of the concepts and terminology used in social science research and the methods used to evaluate and perform this research. This course introduces students to: (1) the nature of evidence based practice library and information science (LIS); (2) scientific inquiry; (3) ethics; (4) research design; (5) basic research methods, including data collection; and (6) basic tools for data analysis.

Textbooks

Wildemuth, B. M. (2009). *Application of social research methods to questions in information and library science*. Westport, CT: Libraries Unlimited Press. **[required]** [UNC bookstore] [SILS library reserves]. Available for rental in the bookstore.

Creswell, J. W. (2009). *Research design: Qualitative, quantitative and mixed methods approaches (3rd edition)*. Thousand Oaks, CA: Sage Publications, Inc. **[purchase not required, but many chapters are required readings]** [UNC bookstore] [SILS library reserves]

Other recommended resources

Babbie, E. (2010). *The practice of social research, 12th edition.* Belmont, CA: Wadsworth Cengage, 2010. [UNC bookstore] [SILS library reserves]

Booth, A. & Brice, A., eds. (2004). *Evidence-based practice: A handbook for information professionals*. London: Facet. [SILS library reserves] Electronic version available at http://www.academia.edu/225730/Evidence_Based_Practice_for_Information_Professionals_A_Handbook

Evidence Based Library and Information Practice (EBLIP) Journal.

http://ejournals.library.ualberta.ca/index.php/EBLIP

Use of bibliographic databases and materials available through UNC libraries. http://eresources.lib.unc.edu/eid/subject.php?subjectName=Information+and+Library+Science

Acknowledgements

This syllabus draws extensively from the syllabi of other INLS 780 instructors at SILS, in particular Professor Diane Kelly. I would also like to thank professors Robert Losee and Barbara Wildemuth for sharing their syllabi. Students are also encouraged to take the Institutional Review Board (IRB) ethics workshop which is offered periodically by Professors Kelly and Wildemuth.

Style

You are required to use APA style for all assignments in this course. This style is used for many proposals and publications in the social and behavioral sciences, including LIS. The following resources can help you understand and implement this style:

- American Psychological Association. (2009). Publication manual of the American Psychological Association (6th ed.). Washington, DC: Author. [SILS library REFERENCE book]
- APA Style website: http://www.apastyle.org/
- The Basics of APA Style Online Tutorial (http://www.apastyle.org/learn/tutorials/basics-tutorial.aspx)
- Purdue Online Writing Lab: http://owl.english.purdue.edu/owl/resource/560/01/

It is strongly recommended that you watch *The Basics of APA Style Online Tutorial* before you submit the first assignment. Your use of APA style will be evaluated in all assignments. All assignments should be double-spaced and paginated. Headings should be used for each major

section with sub-headings as appropriate. Proposals are highly structured documents that provide clear and concise descriptions. This is not a place for lengthy narratives.

Course Schedule and Assignments

Assignments will be *submitted online only* in the Assignments folder on https://www.unc.edu/sakai/. All assignments are due by 11:55 pm. on the due date unless otherwise arranged with the instructor, otherwise late penalties will be applied. This syllabus is on Sakai, as well as a separate listing of assignments and submission deadlines. There may be some supplemental materials occasionally added to the Sakai resources folder.

Summary of Due Dates

Week 3 - Sept. 5	CITI Training must be completed.	
	Master's paper for discussion should be selected and read. Be reading in	
	your area of interest to get ideas.	
Week 5- Sept. 19	Assignment 1. Research questions	
Week 10 -Oct. 24	Assignment 2. Draft proposal	
Week 16-	Assignment 3. Final proposal	
Monday, Dec. 2		

INLS 780 - Class Schedule

Week 1. Aug 22. Introductions and course overview

Wildemuth, Ch.1

Creswell, Ch.1

Luo, L. (2011). Fusing research into practice: The role of research methods education. *Library & Information Science Research*, *33*, 191-201.

Week 2. Aug 29. Evidence based library and information practice

Eldredge, Evidence-based librarianship: an overview.

http://www.ncbi.nlm.nih.gov/pmc/articles/PMC35250/pdf/i0025-7338-088-04-0289.pdf

Koufogianakis, What is evidence?

http://ejournals.library.ualberta.ca/index.php/EBLIP/article/view/10245/8126

Peruse EBLIP Journal http://ejournals.library.ualberta.ca/index.php/EBLIP

Peruse Fourth International Conference on EBLIP http://www.eblip4.unc.edu/

Week 3. Sep 5. Background, area of research and purpose statements. Research Design. Qualitative, quantitative and mixed methods research.

Creswell, Ch. 5-6 pp. 95-109.

Booth, A. & Brice, A., eds. (2004). *Evidence-based practice: A handbook for information professionals*. London: Facet. [SILS library reserves] Electronic version available at http://www.academia.edu/225730/Evidence_Based_Practice_for_Information_Professionals_A_Handbook. Chapters 1 and 5.

DUE: Complete CITI Training and select a SILS master's paper for discussion purposes.

Week 4. Sep 12. Research questions and hypotheses. Program evaluation models.

Wildemuth, Ch. 2-4

Creswell Ch.7

University of Wisconsin-Extension. Program Development and Evaluation.

Logic Model: http://www.uwex.edu/ces/pdande/evaluation/evallogicmodel.html

Week 5. Sep 19. Finding and evaluating research

Creswell, Ch. 2

McLellan, F. (2001, August 25). 1966 and all that: When is a literature search done? *The Lancet*, *358*(9282), 646.

ASSIGNMENT 1 DUE by 11:55 pm.

Week 6. Sep 26: The scientific process/ Writing about research/Ethics. Program evaluation.

APA Publication Manual, pp. 65-71

Creswell, pp. 73-87, 87-93

Ryan, K. J., Brady, J. V., Cooke, R. E., Height, D. I., Jonsen, A. R., King, P., Lebacqz, K., Louisell, D. W., Seldin, D., Stellar, E., & Turtle, R. H. (1979). *The Belmont Report*. available online at: http://ohsr.od.nih.gov/guidelines/belmont.html

Take the online course on program evaluation produced by IMLS at http://www.shapingoutcomes.org/

Week 7. October 3. Questionnaires and Surveys

Wildemuth, Ch. 26

Creswell, Ch. 8

Johns, R. (2010, March). Likert items and scales. *Survey question bank: Methods fact sheet.* Retrieved from http://surveynet.ac.uk/sqb/datacollection/likertfactsheet.pdf

Week 8: Oct 10. Sampling and measurement

Wildemuth, Ch.13-15

Wildemuth, Ch. 27-28

Week 9: Oct 17. Fall break. No class.

Week 10. Oct 24. Historical research, case studies. Bibliometrics

Wildemuth, Ch. 16 and 7

Osareh, F. (1996). Bibliometrics, citation analysis and co-citation analysis: A review of literature I. *Libri*, 46, 149-158. [available in the Resources folder on the Sakai course site]

Johns, R. (2010, March). Likert items and scales. *Survey question bank: Methods fact sheet*. Retrieved from http://surveynet.ac.uk/sqb/datacollection/likertfactsheet.pdf

ASSIGNMENT 2 DUE by 11:55 pm.

Week 11. Oct 31: Experiments and quasi-experiments, longitudinal studies

Wildemuth, Ch. 11-12

Wildemuth, Ch. 9

Week 12. Nov 7. Qualitative research/ Interviews. Mixed methods

Wildemuth, Ch. 30, 33-35

Creswell, Ch. 9

Wildemuth Ch. 19, 23-25

Creswell, Ch. 10

National Institutes of Health . Best practices for mixed methods research in the health sciences.

http://obssr.od.nih.gov/scientific_areas/methodology/mixed_methods_research/section6.a spx

Week 13. Nov 14. Content analysis/diaries and observation/think-aloud protocols

Wildemuth, Ch. 17, 29

Wildemuth, Ch 19, 23-25

Wildemuth, Ch. 19, 23-25

Week 14, Nov 21. Data analysis/ basic statistics/ data archiving. *Final class meeting.

Wildemuth, Ch. 33, 34, 37

Consult other chapters on data analysis methods in Wildemuth, Part V as needed for your own proposal.

Workforce Issues in Library and Information Science. (2013) Guide to Data Curation for Researchers. http://wilisdatacuration.web.unc.edu/

Week 15. Nov 28. No class. Thanksgiving Holiday.

Week 16: ASSIGNMENT 3 DUE MONDAY, DECEMBER 2. 11:55 PM

Assignment Details

- Class attendance and participation (10% of grade)
- Complete the CITI online ethics training (credit/no credit 5% of grade) http://research.unc.edu/offices/human-researchethics/researchers/training/index.htm.
- Find a SILS master's paper that relates to your area of research interest or that you just find interesting. Read it and be prepared to discuss elements of it during the course (no credit)

Class attendance and participation

Plan to attend class and arrive on time. You will be penalized for excessive absences and tardiness. Be courteous to your classmates and course instructor by not conversing with others during class lectures. Turn off cell phones, pagers, and other devices that might disrupt class.

Use laptops and other devices to support current course activities only. **During time you are in class, your attention should be completely devoted to the course.**

Class participation consists of doing the following: attending class, arriving to class on time, being prepared for class, making observations about the readings and exercises, asking questions, taking notes, actively participating in any in-class exercises.

If an unexpected problem arises for you during the course of the semester (serious illness, etc.), please let me know so that we can discuss an appropriate schedule for you. If you need to miss class because of a religious holiday, then we can make alternative arrangements for this as well.

Collaborative Institutional Training Initiative (CITI) online ethics training

All researchers at UNC Chapel Hill and many other institutions are required to complete ethics training prior to engaging in any type of human subjects research. Even if your proposal does not involve gathering or using data from human subjects, you must complete the training as part of this course. It is important for you, as an information professional, to understand the ethical requirements for research since you will likely be accessing and using research data and documents involving human subjects during your career.

By week 3 of the course (September 5), you must complete the UNC ethics training, CITI, available through:

http://research.unc.edu/offices/human-research-ethics/researchers/training/index.htm

Choose the "Direct to CITI online course" option. This takes you to the University of Miami where the course modules are based. Follow the registration process which will take about 5 minutes. When you reach the screen to choose which CITI course to take, select the Human Subjects Protection ("IRB") modules. At the next screen, choose the answer most applicable to you regarding whether you have previously taken basic CITI training. Most of you will answer that you have not completed the basic course. At the next screen, choose research activity Group 2, Social and Behavioral Research. Follow the instructions to complete and confirm your registration, then log back into the site to take the course.

When you have successfully completed the course you will be able to search for your name in the UNC Research Ethics Training Database accessible at the link above. The instructor will look for your name in the database to verify that you have completed the training.

Find a SILS Master's Paper (No credit. Required for class discussion)

We will use the master's papers for discussion in various classes during the semester. Select a paper that relates to your own research area or paper that you just find interesting. You will be asked to discuss the various elements of the proposal in different classes. Not all papers will

have all the elements that we will discuss in class, but look for the following and be prepared to discuss:

- Topic
- Background and purpose statements
- Research questions
- Literature review
- Research design
- Methods
- Data collection
- Data analysis
- Results and conclusions
- Expected benefits
- Summary

You can find the papers at http://dc.lib.unc.edu/cdm/landingpage/collection/s_papers. Bound copies are also available in the SILS library. Note that the above list is very similar to what you will use in final proposal assignment except for the "Results and conclusions". You will add that after you have done your research.

Written assignments

Observe the following technical specifications when writing all your proposal assignments:

- Provide a separate cover page with your name, email address, PID, and proposal title.
 Also include the assignment number and name of assignment e.g. Proposal title, abstract, background, purpose, and research questions
- Use the APA style guide to format your paper and references. Pay close attention to any 'default' styles in your Word processing application and make sure that this style is the same as the APA, especially with respect to line spacing.
- Provide a separate page with bibliographic references. The final assignment may also include appendices such as a draft survey, interview guide or data collection form.
- Double-space your paper, use one-inch margins and 12-point font.
- All papers should look like professional work. Proof-read and copy-edit your paper.
 Points will be deducted for gratuitous spelling and grammatical errors.

Assignment 1. Research questions. See full list of contents below. (25% of grade).

Assignment 2. Draft proposal. See full list of contents below. (25% of grade)

Assignment 3. Final proposal. See full list of contents below. (35% of grade)

*Note that the proposal-related assignments are cumulative, meaning that you will continue to revise and build your proposal as you go along.

Additional instructions for written assignments [read before you write!]

Assignment 1. Proposal title, abstract, background statement including area of research interest, purpose of your particular research project and research questions

(25%). Length 5-6 pages double spaced, plus references.

In this assignment, you should:

- Identify the topic of your research in the **title**
- Include an abstract (no more than 250 words) that succinctly summarizes the topic, background, purpose and research questions. You should add to and modify the abstract with each successive proposal assignment (same word limit). Read the following article on structured abstracts to gain a greater understanding of research abstracts. http://research.mlanet.org/structured_abstract.html
- Add a background statement that introduces your area of research interest and then
 the nature and purpose of your particular research project. For instance, if you plan to
 investigate chat reference services, you might first introduce 'virtual' reference (or even
 reference services, in general) and then move to the more specific topic of chat
 reference.
- Identify and describe the **purpose** of your research. Sample phrasings: "The purpose is to gain a greater understanding of..." or "The purpose it to assist information systems professionals in implementing [a new product or service] more effectively". Also describe any particular practice **problem(s)** that your research will address. To do this, you should point out short-comings or limitations of the current state of knowledge and research about your topic. If possible state a specific goal and objectives for the research.
- Identify 1-3 specific research questions on which you will base your proposal. Think
 about how you can narrow the scope of your research to something that is manageable.
 Look for examples of research questions in journal articles, master's papers and other
 research reports.
- Cite at least three empirical research articles that inform your question. Empirical
 means that the articles should be based on studies that gather data rather than being
 opinion pieces. Review articles are also acceptable. These articles should appear in
 refereed publications. Summarize each article by stating the purpose of the study, what
 was done and what was found. Following each summary, indicate why/how the
 research informs your research questions. Include a link to the full text of each research

article if possible. If fewer than 3 articles can be found, consider including related research articles that could inform your study.

Some other questions to ask yourself:

- Why is this topic or problem an important one to study?
- What are the potential implications of this research (i.e. how could your findings contribute to a better understanding of the topic)? What is the practical value of your research (e.g., how might your findings improve services or applications)?
- Who do you think would be interested in this research (e.g. librarians, LIS researchers, system designers, the general public, children, teachers, etc.)? Why?
- To what academic/research areas does this work contribute? In what way does it contribute to each area?

You do not have to answer the above questions in this assignment, but you should have the answers in mind as you proceed with your proposal. You will address these questions at the end of the "expected benefits" section of the Full Research Proposal.

[Note: some of these points come from Dr. Wildemuth's INLS 98 assignment descriptions and from Harrison Carpenter's EBIO 3940 (University of Colorado) assignment descriptions.]

Assignment 2. Draft proposal. Revise assignment 1 and add <u>Literature review</u>, <u>research design</u>, <u>data collection methods</u>, <u>and proposed analysis</u>. The full proposal to this point should be included in Assignment 2.

*Add a short paragraph at the beginning of the assignment explaining how you have responded to the feedback received on Assignment 1. Do not use "track changes" or text comments for this response.

(25%). Total length of combined assignments is 12-14 pages double spaced, plus references. The search strategy for your literature review can be placed in an appendix.

Developing research proposals is an iterative process so changes and modifications are not only acceptable, they are encouraged. Reread the instructions for Assignment 1 prior to revising those sections In Assignment 2.

Understanding prior research on a particular topic is the basis of most, if not all, scientific discourse. Researchers must know what has been studied, discussed and recommended by other researchers so that they can argue for new lines of thinking. If your topic has not been studied, reviewing related literature is still important. As a researcher, you need to see data in the context of ongoing research in order to understand its validity and significance. Hence, for

this assignment, you will be required to research and analyze the published research (what scientists call "the literature") related to your proposal.

The creation of the literature review involves the identification and selection of items to include, and a synthesis of the pertinent information reported in those items. For each item selected for inclusion, you should have a good understanding of how it relates to your research questions or informs the development of your research. In most literature reviews, scholars demonstrate that certain areas of research have not been explored, and that exploring those areas would produce some knowledge useful to the field.

A variety of search 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. In your assignment provide a description of your search strategy and sources used.

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.

Once you are confident that you have not missed any important sources of information, you should begin writing your literature review. 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 questions.

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.

Review resources materials available at the UNC Writing Center http://writingcenter.unc.edu/before you start writing. Also read Writing a Psychology Literature Review (University of Washington) http://web.psych.washington.edu/writingcenter/writingguides/pdf/litrev.pdf

Observe the following technical specifications when writing your paper:

- Your review should include at least 8 research articles from refereed publications; at least 4 of these must be empirical research articles that include data. Review articles are acceptable.
- In addition to these articles, you may also include references to trade journals and other sources, but you must indicate this in your review and weigh the evidence appropriately.
- Annotate items on your reference page to indicate whether the article describes empirical research or not.
- Your lit review may include articles on specific research methods that you are considering using such as surveys, interviews, think-aloud protocols, theories etc.

Assignment 3. Final proposal. Revise previous assignments, and add expected benefits of the research and a summary, to create the <u>Final Proposal</u>.

(35%). Total length no more than 16-17 pages double spaced, plus references and appendices.

For the research proposal, I expect you to do a final revision of the sections you created for your previous assignments and add expected benefits and a final summary. For examples of Research Proposals look the Institute of Museum and Library Services (IMLS) website at http://www.imls.gov/applicants/sample_applications.aspx. The most relevant applications will be in the Research Category of the Laura Bush Librarians for the 21st Century competition.

Don't let all of the detailed steps below intimidate you. If you've made it this far, you've already completed about 3/4/ of this assignment in draft! Your work for this assignment is primarily revising your earlier work, crafting the final sections and putting everything together!

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

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. Consult the Creswell book on SILS reserve on Research Design for additional background.

Specifically, in your methods section you should provide:

- General description of the methods you will use to gather your data. I expect you to draw on (and cite) our course textbook for this description and additional sources as well. Your job is to show me that you understand something about the method BEFORE you apply it to your situation.
- Justification for why this is an appropriate method for your research problem/question.
- 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).

You data collection section should provide:

- 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 survey, 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 and why you are asking them.
- 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 paragraph 1 page).

Data analysis section should contain:

- Preliminary plan for analyzing the data (about 1 paragraph).
- 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). Be sure to address validity and reliability issues.
- Week-by-week timeline for completing the study. Include this in an Appendix, but refer to it within the text of your method section.
- If you are going to use a survey or interview, you can put a draft copy in an Appendix

For your Research Proposal, you should follow the technical specifications provided in previous assignment descriptions.

Grading Scale

[H] High Pass (95% - 100%)	Truly outstanding work that goes well-beyond the requirements specified in the assignment description. This is a mark of
	distinction. Very few papers will receive this grade.
[P] Pass (80% - 94%)	Papers that receive this grade will meet all or most of the requirements specified in the assignment description. Work that is quite good will receive this grade because of the large range. Most papers will receive a score in this grade range. All scores in this range are completely acceptable, although if you are towards the low end, you might want to speak with me about how to improve your work in the future.
[L] Low Pass (70% - 79%)	Papers that receive this grade are barely acceptable. I <i>usually</i> do not assign this grade. If your paper is a disorganized mess or if you have clearly missed the mark, then I will assign you a temporary grade and ask you to do it over. A 'do-over' at this level will not receive a grade higher than the lowest grade received by someone who did not have the do-over option. There are no do-overs for the Final Proposal or Journals (obviously).
[F] Fail (0% - 69%)	Papers that receive this grade are unacceptable and meet very few (if any) of the requirements specified in the assignment description. This is another grade that I <i>usually</i> do not assign. Instead, I will assign you a temporary grade and ask you to re-do the assignment. A 'do-over' at this level will not receive a grade higher than the lowest grade received by someone who did not have the do-over option. There are no do-overs of the Final Research Proposal or Journal article!

UNC Honor Code

All SILS students must follow the University Honor Code. In brief, the Honor Code requires students to refrain from giving or receiving unauthorized aid: cheating and plagiarism are strictly prohibited and punished. All students should read the UNC Honor Code at http://honor.unc.edu/. Check out the UNC libraries Tutorials for an excellent overview of what constitutes plagiarism. Note that all sources, including websites, used to prepare assignments should be cited as appropriate in the text of the assignment and in the list of references.

Professional Conduct

In addition to the UNC Honor Code, I expect that you will demonstrate integrity and professionalism in your participation in this course, and in the fulfillment of all of your course assignments. This includes completing the assigned readings on the dates they are due, dedicating adequate time for your participation (both in-class and out-of-class), and putting forth effort, care and thought in preparing your written assignments. I also expect you to show respect for all members of this course and all comments and questions posed by them.

Email Expectations

Email is a great way to communicate with me outside of class. It is particularly well suited for short-answer and clarification questions. However, if you need assistance understanding a concept or an assignment, or have another potentially complicated question, then I ask that you email to schedule an in-person meeting. If you ask a question via email that I believe is better suited for in-person discussion, then I will ask you to come in and speak with me.

It is also important to set appropriate expectations about how quickly I can respond to your email. I will try my best to respond to your email within a 24-hour period, but in some cases it may take 2-3 days. Please keep this in mind when you are scheduling your own activities, especially those related to assignments.