UNC-CH INLS 581—Spring 2019
Research Methods Overview
Bob Losee, losee (at) unc dot edu, Manning 302

Brief Description

Almost all the material in Babbie will be covered, with a disproportionate emphasis on materials students often find most difficult to learn from the book or is lightly covered by the book, such as notions of validation, basic statistics, etc.

My personal goal as the instructor is to increase the *leadership skills* in SILS Masters students by teaching them to recognize questions in the students' professional domains whose answers could improve professional practice; to learn methods for gathering original data to increase knowledge about the domain and the answer; and to learn analytic methods that allow one to answer questions and determine the degree of confidence one can have in the answer and the scope of the answer's applicability. Most students will take INLS 781 in their second year in SILS and will gain more detailed knowledge about specific ILS related research and methodologies: INLS 581 is meant to provide an introduction to research by professionals, not to turn out polished ILS researchers. The course is as concerned with students being able to read academic literature as it is with students conducting research.

Text

Babbie, Earl, *The Practice of Social Research*, 14th edition, Thomson 2015. (in Bookstore). To save money, using the 12th or 13th edition is acceptable.

Outline and Readings
(Readings preceded by "*" are optional)

Introduction: Research and its Applications.

Babbie, Chapter 1

* Brockman, J. (editor) *This Idea Must Die: Scientific Theories that are Blocking Progress*, Harper, 2015.

* Clauset, Laremore and Sinatra. "Data-Driven Predictions in the Science of Science." *Science* 355 pp. 477-480. 2017.

* Gilbert, D. *Stumbling on Happiness*, Vintage, 2007.

* Hoyningen-Huene, P. *Systematicity: The Nature of Science*, Oxford U. Press, 2013.

* Losee, R. *Information From Processes: About the Nature of Information Creation, Use, and Representation*, Springer, 2012.

* Manzi, J. *Uncontrolled: The Surprising Payoff of Trial-and-Error for Business, Politics, and Society*. Basic Books, 2012.

* RetractionWatch.com covers retractions, errors, and scientific fraud.

* White, C. *The Science Delusion*. Melville House Pub., 2013.

Social Psychology of Research

Babbie, Chapters 1-3.

* Milgram, S. *Obedience to Authority*, Harper & Row, 1974.

Research Design and Topics

Babbie, Chapter 4

* UNC Institutional Review Board, Behavioral IRB, http://research.unc.edu/human-research-ethics/

Conceptualization, Measurement, Operationalization, and Variables

Babbie, Chapters 4-5

* Matthews, J. *The Evaluation and Measurement of Library Service, Second Edition*. Libraries Unlimited, 2017.

Questions

Babbie, Chapters 6 (Indexes and Scales) & 9 (Surveys)

* Brinkmann, S. *Qualitative Interviewing*. Oxford U. Press, 2013.

Sampling

Babbie, Chapter 7

* Lohr, S. *Sampling: Design and Analysis*. Brooks/Cole, 2010.

Experiments

Babbie, Chapter 8 (Experiments) & 12 (Evaluation Research)

*Dean, Angela; Voss, Daniel; Draguljic, Danel. *Design and Analysis of Experiments*, Second Edition. Springer, 2017.

*Kong J, Spaeth R, Cook A, Kirsch I, Claggett B, et al. (2013) Are All Placebo Effects Equal? Placebo Pills, Sham Acupuncture, Cue Conditioning and Their Association. PLoS ONE 8(7): e67485. http://dx.doi.org/10.1371/journal.pone.0067485

*Lehrer, J. "The Truth Wears Off: Is There Something Wrong with the Scientific Method?" *The New Yorker*, Dec 13, 2010. pp. 52-57.

Qualitative Research

Babbie, Chapters 10 (Qualitative Research) & 13 (Qual. Data Analysis)

* Creswell, John and Poth, Cheryl, Qualitative Inquiry and Research Design, Sage, 2017

Babbie, Chapter 11

* Krippendorff, K. *Content Analysis*, Sage, 2013.

* Watson, Brendan. Content Analysis, Oxford, 2017.

General Analysis of Data

Babbie, Chapters 14, 15, and 16.

* Baker, M. "Statisticians Issue Warning over Misuse of P Values" *Nature* 531 (March 10, 2016) doi:10.1038/nature.2016.19503

* Newton, R. *Your Statistical Consultant: Answers to Your Data Analysis Questions*, Sage, 2013.

*Open Science Collaboration. (2015, Aug 28). Estimating the Reproducibility of Psychological Science. *Science, 349*(6251), 943 (executive summary). http://libproxy.lib.unc.edu/login?url=http://dx.doi.org/10.1126/science.aac4716

* JMP website http://JMP.com

* Sall, J., Lehman, A., Stephens, M., Creighton, L. *JMP Start Statistics: A Guide to Statistic and Data Analysis Using JMP*. Fifth Edition (2012). A good survey of social science statistics and JMP. Not required for the course, but if you want to know much more than we cover in this class about statistics and how to use JMP, this is a good place to start.

The latest version of JMP can be obtained through http://its.unc.edu or http://software.unc.edu/. If you wish to run it through the university virtual lab, go to http://virtuallab.unc.edu

Evaluation

Class participation 50%,
Submitted Assignments 50%.
(Late assignments will result in a considerably lower grade for the assignment)

Research Outcomes Assignments

The following three assignments are designed to help students develop an appreciation for the outcome variables whose improvement is the goal of professional, constructive research, and the methods that study them.

Monday February 25. Read the three paragraphs for this assignment several times. Students are expected to submit, at the beginning of class, on paper, a single sentence stating their functional area of interest (without the domain), a bibliographic citation to a single article that surveys your functional area of interest, along with a list of 7 outcome variables that might be improved by a researcher or information professional investigating the area. Each outcome variable is something that *you* can vary and whose value can be improved, resulting in better performance in your chosen functional area.

Emphasize simple variables that might be discussed in multiple fields. If you were in a School of Education, desirable outcome variables used in studying how to improve teaching effectiveness might include variables such as course grades, test grades, student self-reported interest in the lecture material, judgments by an expert observer, how many yawns each student produces in a single class session, etc. Try to write your outcome variables without a domain when possible. Be as "operational" as possible. Don't use "turnstile count in an academic library" or even "turnstile count in a library"; focus on "turnstile count," which is described as a variable that can be studied in ILS, general business, and marketing literature. To initially locate outcome variables, students might examine books on library or information system or archive or database effectiveness, as well as textbooks that focus on particular functional areas or domains, e.g. reference, organization of information, management, or information retrieval. One might perform a search of appropriate journal indexes for the keywords in the area in which you think you would most enjoy working. Try to be as "operational" as possible when choosing variables, choosing something that can be observed or measured. Avoid broad concepts such as user satisfaction, attitudes, perceptions, library or system quality or diversity; instead choose a specific, observable or measureable variable such as a behavior or "percent of patrons saying they would use the system again in the next month" or "the library is judged by a professional librarian to meet published standards X."

Remember that SILS is a professional school and that our emphasis is on the problems that professionals face routinely. Select outcome variables that an employer would *pay you to study and improve* because it would benefit the operation of the organization.

Monday April 1. Students should submit on paper a list of 5 constructive outcome variables that can be improved upon, along with 3 bibliographic citations for each of the outcome variables (thus 15 citations.) This should be consistent with the material in the previous assignment except for the numbers. Each bibliographic citation should be to a research publication from either a refereed journal or a refereed conference. The same refereed source may be used no more than 2 times for this assignment. Each outcome variable should have at least one citation to it from literature in a field other than ILS, when there is literature on this or a closely related variable in another field, and this citation should be *labeled* as to the field from which it comes.

Tuesday April 30 9 AM. Students should submit (on paper) as their final course project a list of 4 constructive outcome variables. This should be consistent with the material in the previous assignment except for the numbers. Each outcome variable should have associated with it 1 citation to each of the best 5 research articles that address the outcome variable selected. There will thus be 20 citations. Attached to each bibliographic citation should be (1) a sentence or two of 40 words or less describing the research methodology used in this article *to study the outcome variable*. Do not provide a summary of the article; just describe the methodology used, emphasizing how it differs from other articles. Do not discuss the population used in the article (unless very unusual and relevant to the methodology used) and do not discuss the results obtained. (2) Include *in quotes* the name or way that the articles' authors describe the outcome variable you are using. Along with each outcome variable should be one research question or hypothesis, in which you state both a cause and the constructive outcome you might propose to study.

Honor Code

Students should familiarize themselves with the University of North Carolina at Chapel Hill Honor Code which is described in University publications. It should be noted that in this course, students are expected to receive (and provide) some assistance regarding the use of hardware and software in the computer laboratories and general problem solving techniques for the proposal and homework assignments. Students should NOT receive (or provide) major creative assistance or continuing minor support for projects.

Plagiarism: Student assignments that are handed in that contain more than 5 consecutive words that the instructor feels were taken from another source without proper attribution (without the proper quote marks and citations) *definitely will be referred* to the appropriate administrative authorities who address issues of Academic Integrity (e.g. the *Honor Court*) I assume that all students are equally likely to be honest and will put an equal amount of effort into considering the possibility of plagiarism for each student's paper. The UNC Library has a tutorial at http://www.lib.unc.edu/plagiarism/.

Separate from the Honor Code but related to respect for classmates is classroom behavior. Students are expected to behave in a professional manner in class. Students in class are expected to focus on classroom discussion and materials. Students are expected to avoid student-to-student conversations during class. Use of laptop computers, tablets, and telephones should be limited to taking notes for class. Similarly, materials being read (on paper or electronically) should be limited to those appropriate for the classroom lecture or discussion. Students who appear to be involved in non-class related activities during class time will be graded as not participating in class. Cellular telephones and computers should have ringers and speakers muted so as to not disturb others.