

Research and Publication for Librarians; Getting Started

Learn the Research Basics (Don't let this stuff scare you!)

Getting Organized

How to Find Ideas for Research & Publication

Creating an Area of Expertise, Examples from Life

Starting the Research

Places to Publish and Present

Learn the Research Basics (Don't let this stuff scare you!)

Understand the research & publication process

<http://www.library.illinois.edu/gex/PubProcess.html>

The Question: All research starts with a question worth answering. Often the question is based upon previous research or work.

Understand scientific method
(even if you don't really need it for your particular research)

<http://www.geosociety.org/educate/NatureScience.pdf>

Learn the Research Basics (Don't let this stuff scare you!)

Know the basics of research in the social sciences

Books

These are used at GSLIS:

- Baranov, David, 2004, *Conceptual Foundations of Social Research Methods*: Boulder, CO, Paradigm Publishers.
- Beck, Susan E., and Manuel, Kate, 2008, *Practical Research Methods for Librarians and Information Professionals*: NY, Neil-Schuman.

These are some on my book shelf:

- Frey, L.R., Botan, C.H., & Krep, G.L., 1999, *Investigating Communication: An Introduction to Research Methods*, 2nd ed.: Allyn & Bacon.
- Busha, C.H., & Harter, S.P., 1980, *Research Methods in Librarianship; Techniques and Interpretation (Library and Information Science Series)*: Academic Press.
- Howell, D.C., 2009, *Statistical Methods for Psychology*, 7th ed.: Wadsworth Publishing.

Learn the Research Basics (Don't let this stuff scare you!)

Know the basics of research in the social sciences

Other:

Study survey research methods, related statistical methods, & IRB requirements.

Know about the difficulty of controlling variables in the social sciences.

Know the difference between theory vs. hypothesis.

Research: The goal is to support your hypothesis, not to prove it. (There could nearly always be another, unknown, explanation).

Study pre-test/post-test techniques.

Learn about longitudinal research methods.

Learn the Research Basics (Don't let this stuff scare you!)

Know the basic organization of a research article:

<http://www.library.illinois.edu/gex/Classes/ClimateChangeInformation.html#ORGANIZATION>

Title: Usually a straightforward statement of the exact topic that was studied. Sometimes stated as a question.

Abstract: A summary of the most important points in the article, and usually one paragraph in length. It generally states the general purpose and relevant findings, and may summarize the procedures used.

Introduction: The beginning of the body of the article, generally a page or two in length. It introduces the topic and explains the purpose and significance of the research.

Review of the Literature: Identifies previous relevant research and relates it to the topic being studied. Often included in the introduction.

Research Question/Hypothesis: Why the research was initiated. Often a part of the introduction, at the end of the literature review.

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Methodology/Procedures: Explains exactly how the research was conducted. Should be like a "recipe" for replicating the research. It may include an explanation of data acquisition, procedures, and data treatment.

Results: Explains what the researcher found by doing the study. Generally technical due to the use of statistics, tables and graphs, and jargon.

Discussion: Explains what the results mean and their significance. May be in three parts: Importance and utility of the results; problems and limitations; future research possibilities generated by the research.

Summary, and/or Conclusions: May be included with Discussion. Ties everything together and completes a circle with the introduction.

Acknowledgements: Gives credit to individuals who helped with technical or financial aspects of the research but were not coauthors of the paper.

References: An accurate and complete list of all literary resources used. All information necessary for finding the material should be included, and the references should adhere to a particular style for better communication.

Learn the Research Basics (Don't let this stuff scare you!)

Know how to read a scientific paper....without having to read every word.

<http://www.library.illinois.edu/gex/Classes/ClimateChangeInformation.html#TOPIC9>

It is often unnecessary to read every word of an article.

During a literature search:

In the index, scan the title and abstract. Copy relevant citations. Pick the most relevant articles and obtain copies.

Learn the Research Basics (Don't let this stuff scare you!)

Know how to read a scientific paper....without having to read every word.

When reading an article:

- Scan the abstract.
- Read the introduction in detail.
- Then skip to the Discussion/Summary/Conclusions, and look at the tables, figures, images, and their captions.
- At this point you may have covered most of the pertinent material, but it is still wise to go back and scan the Methodology, and Results sections.
- If the article is central to your topic, you may need to go back and read the whole paper in detail, and look up any unfamiliar terms in a glossary.
- Through practice, you will learn what you need to study in more detail, and what you can scan or skip altogether.

Learn the Research Basics (Don't let this stuff scare you!)

Know how to read to read a scientific paper....without having to read every word.

- If you take notes while you read, make sure you also indicate the complete reference, including page numbers.
- There are few things more frustrating than trying to track back to find where you obtained a particular idea, quotation, or illustration.
- There are online tools that can help with this.

Getting Organized

The following may not be the best way to go about research & publication, but it is merely an example from life, a way that has worked for me. You will find your own most effective methods as you go about the process.

Computer Folders:

Papers>

Ideas>

e.g. QuatRes vs Atmos

Documents: Working titles, Outlines, Notes, References

Working Papers>

e.g. Elsevier Follow Up Study

Finished Papers>

e.g. Elsevier Quality Study

Getting Organized

Example of Recent Idea:

Interdisciplinary Research at UIUC, and Library Support

- 1) Identify interdisciplinary research topics (each could be a separate paper)
 - Climate Change
 - Sustainability
 - Environmental whatever
- 2) Who is doing research? (Departments; Individuals; Research Groups)
- 3) What classes are being taught?
- 4) Grants?
- 5) Theses and Dissertations (recent)
- 6) What Librarians should be involved?
- 7) What Librarians are involved?
 - How? (extent of involvement)
 - What resources have they created? (Web pages, etc.)
- 8) Recommendations
- 9) Create portal?

How to Find Ideas for Research & Publication

The Question: All research starts with a question worth answering.

Learn to hear your own questions...and the questions of others.

Learn to recognize which questions might be good research topics. (Is it worth answering? Is it answerable?)

Immediately record the question. (Keep a notebook for this purpose, or use an electronic device. You never know when an idea will occur...when you are driving, walking, about to fall asleep, upon waking, sitting in faculty meeting...)

Regularly transfer those ideas to your "Ideas File" on your computer.

How to Find Ideas for Research & Publication

The Question: All research starts with a question worth answering.

Make a habit of noticing and recording potential research topics.

All of this may sound tedious, but it is a habit, like brushing your teeth, that you don't even think about much once you have formed it.

And it is FUN!! 😊

Emulate your pet.

How to Find Ideas for Research & Publication

Sources of Ideas:

Papers early in your career

Can you extend a paper you did in library school? Did you complete a thesis, and could you turn that into a paper?

Can you turn your job interview talk into a paper?

- Joseph, Lura E. 2001. Geology librarianship: Current trends and challenges. *Science and Technology Libraries* 21(1/2):65-85.

Do you have special knowledge/experience in a subject area?

- Joseph, Lura E. 2001. Information seeking and communication behavior of petroleum geologists. *Science and Technology Libraries* 21(3/4):47-62.

How to Find Ideas for Research & Publication

Sources of Ideas:

What you are doing at work:

Case studies based on experience:

Thomas, Kathryn, and Lura E. Joseph. 1999. Current preservation projects at North Dakota State University. *Geoscience Information Society Newsletter* 178:7.

Joseph, Lura E. 1999. Creating a web-based, searchable bibliography. *Geoscience Information Society Newsletter* 179:11-12.

England, Mark, Lura E. Joseph and Nem W. Schlecht. 2000. A low-cost library database solution. *Information Technology and Libraries* 19(1):46-49.

Joseph, Lura E. 2003. Possible impacts of high-density storage on geoscience collections at University of Illinois at Urbana-Champaign (UIUC). *Geoscience Information Society Proceedings* 33:55-61.

Joseph, Lura E. 2004. The web-based academic field trip bibliography: A multi-use library tool. *Issues in Science and Technology Librarianship* 40 (summer): article 6 (<http://www.istl.org/>).

Joseph, Lura E. (Accepted 2008). Going virtual; Opportunities and challenges for geology libraries and users. *Geoscience Information Society Proceedings* 38: 8 manuscript pages (delayed publication).

How to Find Ideas for Research & Publication

Sources of Ideas:

What you are doing at work:

Case studies based on experience:

Note: Some topics are worth a paper at one point in time, but not another. For example, when the technology or topic is new, a paper is welcome, but after the technology or topic is well known, a paper is not needed unless a new facet can be added.

How to Find Ideas for Research & Publication

Sources of Ideas:

What you are doing at work:

Solving a problem

▪ Joseph, Lura E. 2006. Image and figure quality: A study of Elsevier's Earth and Planetary Sciences electronic journal back file package. *Library Collections, Acquisitions, and Technical Services* 30(3/4): 162-168 (doi:10.1016/j.lcats.2006.12.002) (award).

The above paper is leading to a follow-up study; has the problem been solved?
(Not completely)

▪ Joseph, Lura E. (Submitted and Accepted, 2009). Geologic Field Trip Guidebooks; Progress on a Project to Identify Indexing Gaps. *Geoscience Information Society Proceedings* 40: 9 manuscript pages.

A full study will be submitted later to The Grey Literature Journal.

How to Find Ideas for Research & Publication

Sources of Ideas:

Comparing what you are doing here with work being done at another university:

- Chrzastowski, Tina E. and Lura E. Joseph. 2006. Surveying graduate and professional students' perspectives on library services, facilities and collections at the University of Illinois at Urbana-Champaign: Does subject discipline continue to influence library use? *Issues in Science and Technology Librarianship* 45 (winter): refereed article 3 <<http://www.istl.org/06-winter/refereed3.html>>. (15 March 2006).

What other people are doing here at work (could you coauthor a paper?):

- Map index scanning project (team project with Betsy, MJ, Jenny, Lura, and others)

Patrons (questions and needs):

- Joseph, Lura E. 2007. Comparison of retrieval performance of eleven online indexes containing information related to Quaternary research, an interdisciplinary science. *Reference and User Services Quarterly* 47(1):56-65 (award).

How to Find Ideas for Research & Publication

Sources of Ideas:

Grants

- Joseph, Lura E. 2008. Digital Data Curation; Investigating Potential Collaboration between Librarians and Researchers. Geoscience Information Society Proceedings 39: 3-9.

Professional meetings:

Talks & posters, your own:

I give a talk at the Geological Society of America (GSA)/Geoscience Information Society (GSIS) annual meeting most years, and subsequently write a paper that is published in the GSIS Proceedings. The abstract is also published by GSA.

How to Find Ideas for Research & Publication

Sources of Ideas:

Professional meetings:

Talks & poster, others:

This talk/paper gave me an idea:

- Yocum, P.B., 2003, USGS Water Resources Investigation Reports; A case study for improving access: Geoscience Information Society Proceedings, v. 34, p. 99-103.

It supported the idea that analyzing series increases use by improving access. As part of relocating the Geology Collection, we are analyzing many series. I plan to do a follow-up study to see if Yocum's research is supported.

How to Find Ideas for Research & Publication

Sources of Ideas:

Committee work

- Joseph, Lura E. 2006. Where are geologic field trip guidebooks when you need them? *Geoscience Information Society Proceedings* 37: 23-29 (publication was released in 2008).
- Geoscience Information Society Guidebook Standards Subcommittee (Joseph, Lura E., Claren Kidd, and Dorothy McGarry). 2005. Guidelines for authors, editors, and publishers of geologic field trip guidebooks, revised: Geoscience Information Society <<http://www.geoinfo.org/GuidebookGuidelines.pdf>>.

How to Find Ideas for Research & Publication

Sources of Ideas:

What you are reading:

How does this paper compare to what you doing, or what you know? Can you expand the research or offer a different view or approach?

Are there questions posed by the paper that you could answer? (It is a good idea to contact the authors first; they might already being doing follow-up research).

Invited talks/papers:

Partly, you may be asked simply because you are associated with UIUC.

As you settle into your research area, you will become known for a subject (see below).

You may be invited to speak or publish due to your associations related to professional societies, meetings and committees.

Creating an Area of Expertise, Examples from Life

Creating an Area of Expertise:

In my experience, these were not planned...they simply evolved. (Although, planning is to be commended, e.g. J.K. Rowling) 😊

It was a matter of finding a burning interest, and recognizing and capitalizing upon opportunities.

Examples from Life:

Guidebooks:

Creating an Area of Expertise, Examples from Life

Creating an Area of Expertise, Examples from Life:

Guidebooks:

- Joseph, Lura E. 2002. Help libraries preserve field trip guidebooks. *The Quaternary Times* 32(2):12. [Published after a presentation at the AMQUA Business Meeting, Anchorage, AL, 2002].
- Geoscience Information Society, Union List of Field Trip Guidebooks Committee, chair, 2002, 2008-present.
- Geoscience Information Society Guidebook Standards Subcommittee (Joseph, Lura E., Claren Kidd, and Dorothy McGarry). 2005. Guidelines for authors, editors, and publishers of geologic field trip guidebooks, revised: Geoscience Information Society <<http://www.geoinfo.org/GuidebookGuidelines.pdf>>.
- Joseph, Lura E. 2006. Where are geologic field trip guidebooks when you need them? *Geoscience Information Society Proceedings* 37: 23-29. [Presentation at Geological Society of America, Philadelphia, PA, 2006]
- Mudrey, M.G., Jr., Hollings, P., Joseph, Lura E., Jirsa, M., and Kalliokoski, J. 2008. On-Line electronic access to Institute on Lake Superior Geology Publications Institute on Lake Superior Geology, Marquette, MI. [oral and poster presentations; extended abstract in Proceedings]

Creating an Area of Expertise, Examples from Life

Creating an Area of Expertise, Examples from Life:

Guidebooks:

- Joseph, Lura E. 2008. *Best Practices for Creating and Preserving Field Trip Guidebooks*, American Institute of Professional Geologists (AIPG) Annual Meeting, Flagstaff, AZ, September 22, 2008 [invited talk].
- Joseph, Lura E. (Submitted and Accepted, 2009). Geologic Field Trip Guidebooks; Progress on a Project to Identify Indexing Gaps. *Geoscience Information Society Proceedings* 40: 9 manuscript pages. [Presentations at Geological Society of America, Portland, OR, 2009]
- Joseph, Lura E. 2009. Geologic Field Trip Guidebooks; Progress on a Project to Identify Indexing Gaps. *Geological Society of America Abstracts with Programs* 41(7):604.
- Joseph, Lura E. Geologic Field Trip Guidebooks; Progress on a Project to Identify Indexing Gaps. Geological Society of America Annual Meeting, Portland, OR. UIUC Scholars Travel Fund, 2009, \$740.
- Joseph, Lura E. 2009. Geologic Field Trip Guidebooks; A Project to Identify Indexing Gaps, 11th International Grey Literature Conference, December 14, 2009 [invited talk; PowerPoint published in Program and Abstracts].

Follow-up paper planned for The Grey Literature Journal. Plenty of research potential remains.

Creating an Area of Expertise, Examples from Life

Creating an Area of Expertise, Examples from Life:

Quality of Images in Electronic Journals:

This began as an attempt to solve a problem. We purchased the Elsevier Earth and Planetary Sciences back file and moved print journals to the new remote shelving facility. Patrons began reporting problems with images in the Elsevier back file. When contacted, Elsevier said they would rescan any issue with a problem, but we would need to tell them which issues had problems. Therefore, I examined every issue of the 35 journals in the package, and created a database showing which of the issues had problems. I sent Elsevier the database, and wrote a paper about the problem. Other people were also reporting problems in other packages, so Elsevier initiated a rescanning project of journal issues through 1994. I am writing a follow-up paper on the results on their project.

- Joseph, Lura E. 2006. Image and figure quality: A study of Elsevier's Earth and Planetary Sciences electronic journal back file package. *Library Collections, Acquisitions, and Technical Services* 30(3/4):162-168 <<http://dx.doi.org/10.1016/j.lcats.2006.12.002>>. [GSIS 2007 Best Paper Award]
- Joseph, Lura E. 2006. Elsevier Earth & Planetary Science Backfile Analysis. *Collection Development Forum, Geoscience Information Society Annual Meeting*. Philadelphia, PA.

Follow-up study in progress.

Starting the Research

Starting the Research

Pilot study

It is a good idea to do a trial run to iron out wrinkles...Might save a lot of time and agony.

Are people involved as subjects?

Do you need IRB approval before you start?

Places to Publish and Present

Presentations

- At professional society meetings, locally for experience, etc.
- Importance: Recognition and contacts (along with committee work)
- Balance with Publication (both take time)
- Beware of Proceedings (the issue of peer review)

Scholarly Journals

- Ask experienced librarians
- Your own experience

Books, Book Chapters, etc.

- Joseph, Lura E. 2003. Geology databases. In *Encyclopedia of Library and Information Science*, 2nd ed., edited by Miriam Drake. New York: Marcel Dekker, Inc., 1126-1138.
- Joseph, Lura E., ed. 2004. *Geoscience Information Horizons: Challenges, Choices, and Decisions*. Alexandria, VA: Geoscience Information Society/American Geological Institute, 151 p.
- Joseph, Lura. 2006. Related work: Assessment. In Chapter 10, Related Work. In *Electric Worlds in The Classroom*, edited by Brian M. Slator and Associates. New York: Teachers College Press, 111-113.
- Joseph, Lura E. 2007. Quaternary research. Chapter 3 in *Literature Search Strategies For Interdisciplinary Research*, edited by Linda Ackerson. Lanham, Md.: Scarecrow Press, 31-45.

Some final thoughts

- Stress & creativity
 - Learn when you are most creative
 - Right after a vacation?
 - After or during a conference?
 - Time of day or week?
- Generating different perspectives
 - Forest and the trees
 - Lessons from an oil painting class
 - Take time for chocolate
 - Through a mirror
 - Up-side-down
- Be kind to yourself
 - Learn what parts of the process are most enjoyable; what parts are stressful; pace yourself
 - Find ways to enjoy the process
 - Find ways to reward yourself for the parts you don't enjoy
- Seek help; talk it through with someone when you get stuck.