

Building a Systematic Review Instruction & Research Support Program: An Instructional Framework

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The University of Alabama Libraries

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Today's agenda

- Some context on the state of systematic review publishing.
- What role can research librarians play in the systematic review research process?
- The systematic review instruction & research support program at The University of Alabama Libraries.
- How we've collected data on systematic review publishing at The University of Alabama & what we plan to do with that data.
- Future directions of our program.

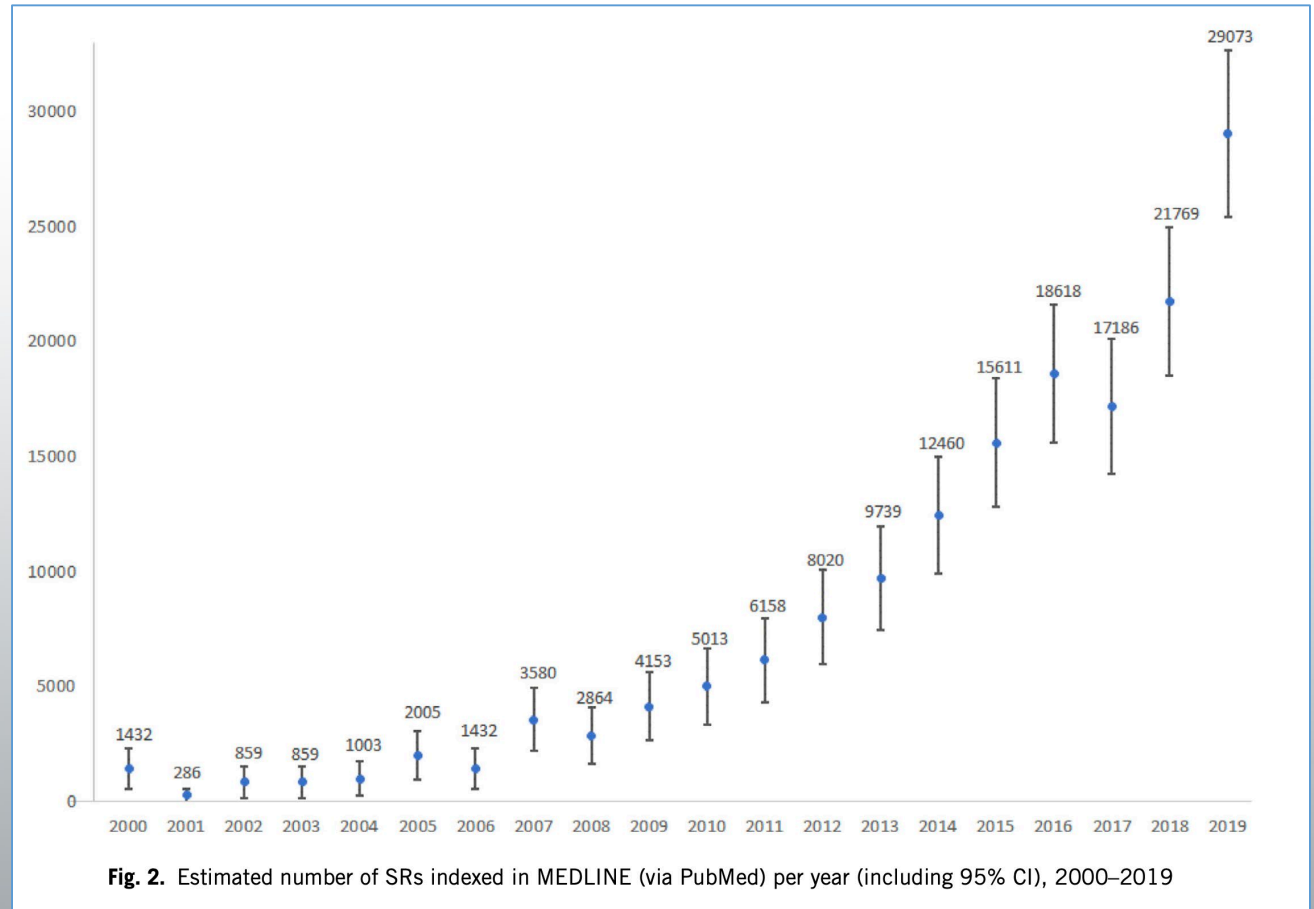
What is a systematic review?

“A review that uses explicit, systematic methods to collate and synthesize findings of studies that address a clearly formulated question.”

Higgins JPT, Thomas J, Chandler J, Cumpston M, Li T, Page MJ, et al, eds. Cochrane handbook for systematic reviews of interventions: version 6.0. Cochrane, 2019.

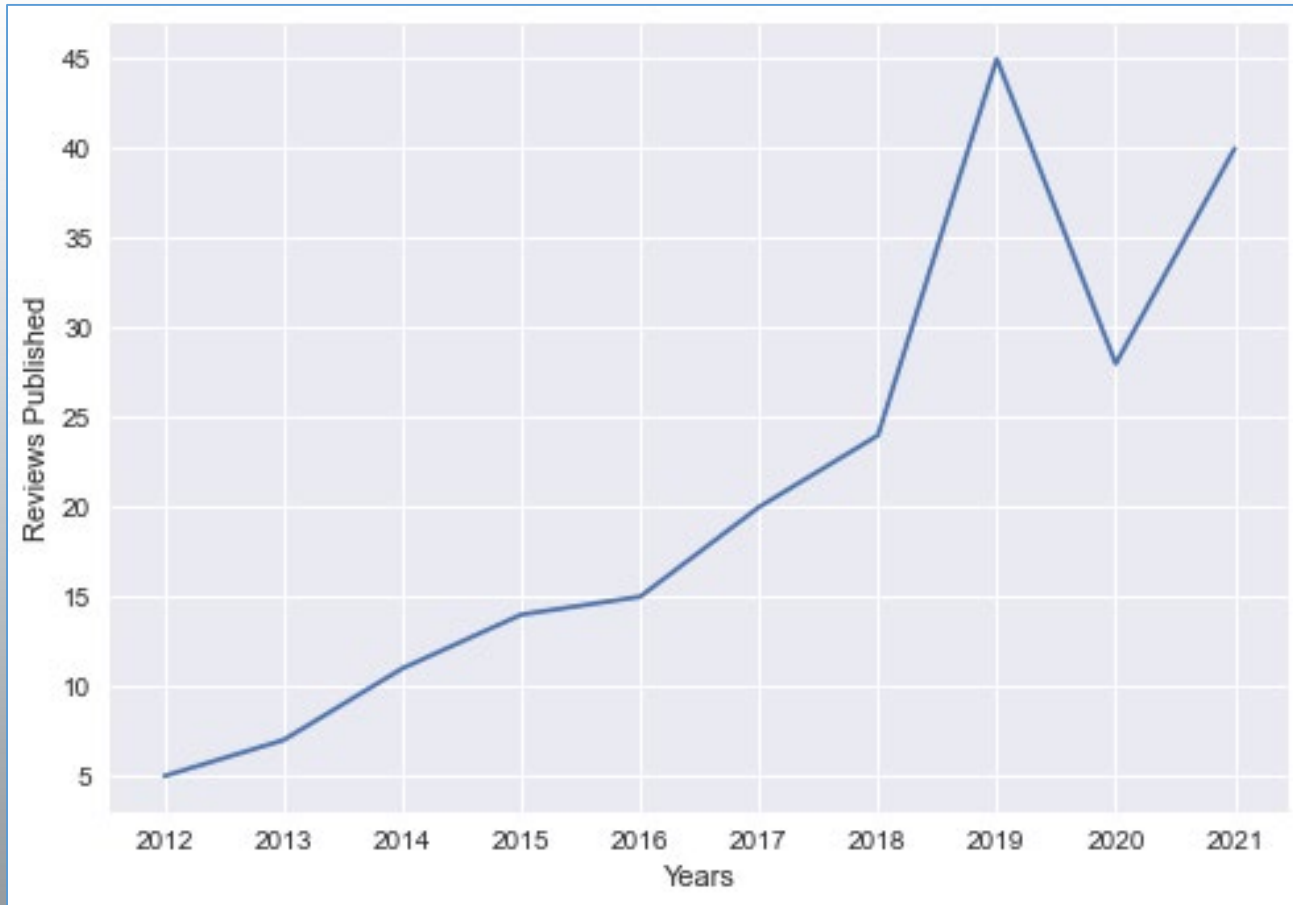
The State of Systematic Review Publishing

Overall trends in SR publications



Hoffmann, F., Allers, K., Rombey, T., Helbach, J., Hoffmann, A., Mathes, T., & Pieper, D. (2021). Nearly 80 systematic reviews were published each day: Observational study on trends in epidemiology and reporting over the years 2000-2019. *Journal of Clinical Epidemiology*, 138, 1–11. <https://doi.org/10.1016/j.jclinepi.2021.05.022>

Trends at The University of Alabama



Calls for Librarian Support

Cochrane Collaboration

Chapter 4: Searching for and selecting studies

- “Review authors should work closely, from the start of the protocol, with an experienced medical/healthcare librarian or information specialist.”

Lefebvre C, Glanville J, Briscoe S, Featherstone R, Littlewood A, Marshall C, Metzendorf M-I, Noel-Storr A, Paynter R, Rader T, Thomas J, Wieland LS. Chapter 4: Searching for and selecting studies. In: Higgins JPT, Thomas J, Chandler J, Cumpston M, Li T, Page MJ, Welch VA (editors). *Cochrane Handbook for Systematic Reviews of Interventions* version 6.3 (updated February 2022). Cochrane, 2022. Available from www.training.cochrane.org/handbook.

National Academies of Sciences, Engineering, and Medicine (Formerly Institute of Medicine)

Standards for Systematic Reviews

- Standard 3.1.1: Work with a **librarian** or other information specialist trained in performing systematic reviews to plan the search strategy.
- Standard 3.1.3: Use an independent **librarian** or other information specialist to peer review the search strategy

Institute of Medicine (US) Committee on Standards for Systematic Reviews of Comparative Effectiveness Research. (2011). *Finding what works: Standards for systematic reviews*. National Academies Press.

<https://www.ncbi.nlm.nih.gov/books/NBK209506/>

Campbell Collaboration

2 Information Retrieval Overview

- 2.1 General Issues: “This guide's fundamental premise is that information retrieval is an essential component of the systematic review process, analogous to the data collection phase of a primary research study, and requires the expertise of TSC (trials search coordinator), an information specialist (IS) or a **librarian**.”
- 2.2 The Trials Search Coordinator (TSC): “If a CG (Campbell coordinating group) is currently without a TCG, authors should seek the guidance of an **academic librarian** or information specialist.”

3 Source Search

- 3.1 Subject Databases: “Review authors should seek advice from their local **librarian** for access at their institution”

4 Planning the Search

- 4.1: Trials and Search Coordinators (TSCS) and **Academic Librarians**: “If the CG is currently without a TSC it is recommended that review authors seek guidance from an **academic librarian** or information specialist with experience in supporting systematic reviewers”

Kugley, S., Wade, A., Thomas, J., Mahood, Q., Jørgensen, A.-M.K., Hammerstrøm, K. and Sathe, N. (2017). Searching for studies: a guide to information retrieval for Campbell systematic reviews. *Campbell Systematic Reviews*, 13: 1-73. <https://doi.org/10.4073/cm.2016.1>

As Evidenced by the Research

- “Librarians and information specialist participation in systematic reviews (SRs) are correlated with higher quality reported search strategies.”
- “Librarian and information specialist co-authored SRs have significantly better reported search strategies and search documentation than SRs with acknowledged or no participation by librarians or information specialists.”
- “Journal editors and peer reviewers may wish to encourage systematic reviewers to include a librarian or information specialist on the SR team beginning with the construction of the protocol to authorship on the final manuscript.”

Rethlefsen, Farrell, A. M., Osterhaus Trzasko, L. C., and Brigham, T. J. (2015). Librarian co-authors correlated with higher quality reported search strategies in general internal medicine systematic reviews.” *Journal of Clinical Epidemiology*, 68 (6): 617–26. doi:10.1016/j.jclinepi.2014.11.025.

Librarian Support

How can a librarian help?

- Determine if a systematic review has been done on the research question
- Brainstorm research questions using various frameworks such as PICO
- Identify keywords and controlled vocabulary
- Identify databases & other sources
- Create comprehensive search strategies
- Assist with literature searching
- Provide guidance on software to assist with the article screening process
- Provide guidance on citation management tools such as Zotero, EndNote, or RefWorks
- Assist with the methodology section of the review
- **Librarians may also be able to serve as a partner and co-author on the systematic review research team**

Building a Systematic Review Instruction & Research Support Program

The components of the program

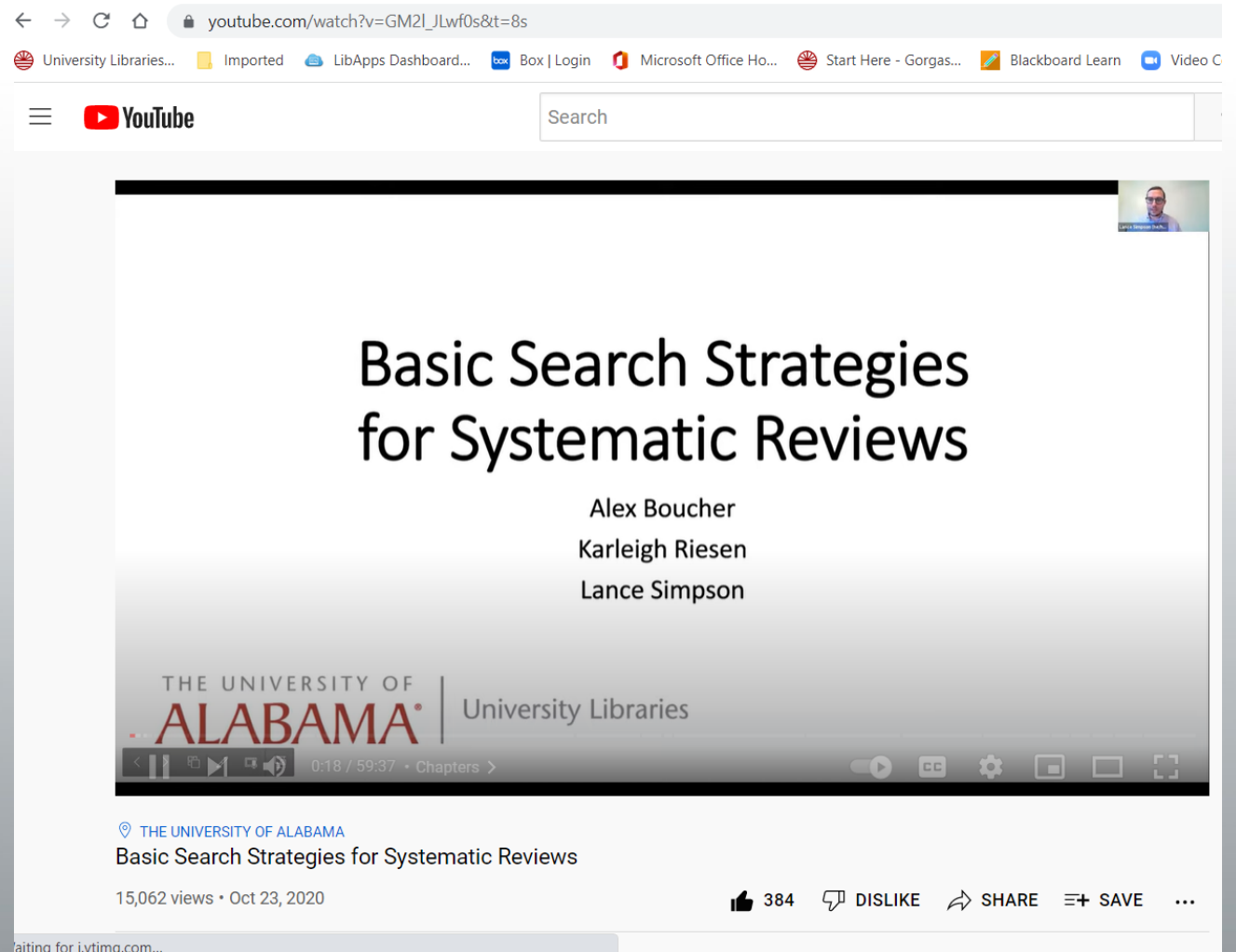
- Workshops
- Traditional classroom instruction
- Research consultations
- Co-authorship
- [Research guides](#)
- [Video tutorials](#)

The Research Process for Systematic Reviews: A Workshop Series

- At least 2-3 workshops per semester.
- Examples:
 - "Getting Started on your Systematic Review."
 - "Basic Search Strategies for Systematic Reviews."
 - "Tools for Systematic Reviews."
 - "Rayyan for Systematic Reviews: An Introduction."
 - "Keywords & Controlled Vocabulary: A Guide to Systematic Review Searching."

Workshops

- All workshops have been online.
- Workshops uploaded to YouTube and shared with registrants & the campus community.
- The demand for these workshops (gauged via YouTube views and workshop registrations) has been surprisingly robust.



The screenshot shows a YouTube video player interface. The browser's address bar displays the URL `youtube.com/watch?v=GM2l_JLwf0s&t=8s`. The YouTube logo and a search bar are visible at the top. The video content features a title slide with the text "Basic Search Strategies for Systematic Reviews" and the names of the presenters: Alex Boucher, Karleigh Riesen, and Lance Simpson. Below the slide, the University of Alabama logo and "University Libraries" are displayed. The video player controls show a progress bar at 0:18 / 59:37. Below the video, the channel name "THE UNIVERSITY OF ALABAMA" is shown, along with the video title "Basic Search Strategies for Systematic Reviews", the view count "15,062 views", and the upload date "Oct 23, 2020". Interaction buttons for like (384), dislike, share, save, and a menu icon are also present.

Video tutorials

The University of Alabama

RESEARCH SKILLS WORKSHOP
SYSTEMATIC LITERATURE REVIEWS: GETTING STARTED
PLAY ALL

Systematic Literature Reviews
7 videos • 513 views • Last updated on Mar 30, 2022

University of Alabama Libraries **SUBSCRIBE**

- 1 **Getting Started on your Systematic Review**
University of Alabama Libraries
53:47
- 2 **Basic Search Strategies for Systematic Reviews**
University of Alabama Libraries
59:38
- 3 **Tools for Systematic Reviews**
University of Alabama Libraries
58:33
- 4 **Creating a Systematic Review Protocol**
University of Alabama Libraries
3:16
- 5 **How to Find Systematic Reviews**
University of Alabama Libraries
2:46
- 6 **Conducting an Exploratory Search for a Systematic Review**
University of Alabama Libraries
2:53
- 7 **Documenting Your Systematic Review Searches with Excel**

A Research Guide for Systematic Literature Reviews



University Libraries

University of Alabama Libraries / Research Guides / A Research Guide for Systematic Literature Reviews / Systematic Reviews

A Research Guide for Systematic Literature Reviews: Systematic Reviews

- Systematic Reviews
- Types of Reviews
- Developing the Research Question
- Creating the Systematic Review Protocol
- Planning the Search
- Executing the Search
- Tools for Systematic Reviews
- How can a Librarian help?
- Expert Searching
- Tutorials

Systematic Reviews

According to the *Cochrane Handbook*, section 1.2.2, "a systematic review attempts to collate all empirical evidence that fits pre-specified eligibility criteria in order to answer a specific research question."

The key characteristics of a systematic review are:

- a clearly stated set of objectives with pre-defined eligibility criteria for studies;
- an explicit, reproducible methodology;
- a systematic search that attempts to identify all studies that would meet the eligibility criteria;
- an assessment of the validity of the findings of the included studies, for example through the assessment of risk of bias; and
- a systematic presentation, and synthesis, of the characteristics and findings of the included studies.

Source: Green, S., Higgins, J.P.T., Alderson, P., Clarke, M., Mulrow, C.D., Oxman, A.D. (2008). Chapter 1: Introduction. In: Higgins, J.P.T., Green, S. (Eds.), *Cochrane handbook for systematic reviews of interventions*. The Cochrane Collaboration.

Timeline

A systematic review is a lengthy process. Here is a general timeline for conducting a systematic review:

Month	Activity
1-2	Preparation of protocol

Upcoming Workshops

There are no scheduled Systematic Review workshops at this time. Please check back soon.

Contact

Contact the creators of this research guide:

- [Alex Boucher](#)
Research & Instructional Services
Librarian for History, Human
Environmental Sciences, and Latin
American Studies.
- [Karleigh Riesen](#)
Research & Instructional Services
Librarian for the Social Sciences.

What we've learned

- Campus demand for systematic review support from research librarians is extremely strong.
 - Systematic review support is not just for medical/health sciences librarians.
- There has been a marked increase in the amount of graduate student courses that are requiring “mock” systematic reviews, which has implications for an instruction/research support program.
- Most faculty/grad students simply want to *learn* about systematic review research (via online workshops, tutorials, research guides, etc.)
- If faculty/grad students want more intensive support from a research librarian, it's important to transparently *negotiate your role and state your expectations*.

Measuring systematic review
publishing on-campus & what to
do with that data.

Future Directions: Growing the Program

Understand campus-wide SR research output

- Continue to run bibliometric data analysis to better understand systematic review output on our campus and identify areas for outreach
- Share bibliometric data with liaisons

Develop a community of support

- Provide a Systematic Review workshop for librarians
- Facilitate a curriculum mapping project to identify classes with a systematic review component
- Build a repository of resources that will help librarians support systematic review research
- Coordinate end of semester meetings to check-in on systematic review work that has been taking place

Assessment

Develop formal assessment for systematic review support services to inform:

- Workshops
- Resources
- Research Consultations
- Programmatic Support

Questions?

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Lance Simpson: lsimpson@ua.edu

[GitHub Repository of Presentation Data](#)

Alex Boucher: taboucher@ua.edu

