CONDUCTING RESEARCH FOR KNOWLEDGE SYNTHESIS

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OR

HOW TO DEVELOP A
SYSTEMATIC SEARCH
LIKE A LIBRARIAN
OR

HOW TO CREATE A SIGNATURE RECIPE
Your Experiences – hoops & hurdles
**Analogy**

- Developing a systematic search strategy is like creating a new recipe

- Making dinner for your family is a different process than creating your signature recipe for a Culinary World Masters competition (or on a smaller scale planning a culinary evening with friends)

- Finding articles for a literature review is a different process than data collection for a systematic review
Systematic Searching Process

Research question & concepts
Existing SR & Seed articles
Keywords/subject headings
Structure & combine concepts
Pilot search, revise, pilot
FINAL SEARCH
What is the nature and strength of the evidence for mentorship in nursing academia?

The purpose of this paper was to systematically review peer-reviewed published interventions designed to reduce weight bias in health professionals.
What is the nature and strength of the evidence for mentorship in nursing academia?

- P
- I
- C
- O
The purpose of this paper was to systematically review peer-reviewed published educational interventions designed to reduce weight bias in health professionals.

- **P** – health professionals
- **I** – educational interventions
- **C** –
- **O** – reduction in weight bias

<table>
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<tr>
<th>Health Professionals</th>
<th>Educational Interventions</th>
<th>Weight Bias / Prejudice</th>
<th>Overweight / Obesity</th>
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Previous Reviews & Seed Articles

- Have other reviews been conducted?

- Seed Articles
  - Seed articles are those that are very relevant to your topic, and serve as a basis for developing your search strategy as they can help to discover possible keywords and subsequent subject headings.
  - Seed articles are essential to find so that you know that there is research on your topic.
Keywords & Subject Headings

- Analyze the seed/key articles for
  - Keywords
    - Author supplied
    - Words in title, abstract, methods, discussion, conclusions
    - Cited by articles leads to more keywords
  - Keywords
    - Brainstorm synonyms based your own knowledge of the subject area
Keywords & Subject Headings

**HOW TO SAY ‘COFFEE’ IN EUROPE**

**KEY**
- From Arabic "قهوه" [qahwa] (coffee, a brew, wine)
- From Old Armenian "աղքատ" [surč], believed to be from onomatopoetic origin from the sound made when coffee is sipped

*Nynorsk: kaffi*
What are subject headings?

- [YouTube Video](https://www.youtube.com/watch?v=6uRPJQd-dbc)
- An index term, subject term, subject heading, or descriptor, in information retrieval, is a term that captures the essence of the topic of a document. Index terms make up a controlled vocabulary for use in bibliographic records.
- Different in each database

Analyze the seed/key articles for

- Subject Headings
  - Must be done in the database
Previous Reviews & Seed Articles

- Let’s find some previously conducted reviews and discover seed articles
Have other reviews been conducted?


What are the seed articles?


## Research Question and Concepts

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Structure and Combine Concepts

- Review your keywords and subject headings for each concept
- Consider truncation for keywords
- Further explore subject headings using keywords
- Combine keywords and subject headings for each concept with OR
Structure and Combine Concepts

**AND**

I would like soup *and* salad
I want both soup *and* salad

**OR**

I would like soup *or* salad
I want just soup, just salad or both soup and salad

https://www.youtube.com/watch?v=4qKDQKJCp-s
Structure and Combine Concepts

- Set up your searches so you can easily revise, adapt, change
  - Keywords are constant across databases (within reason)
  - Subject headings are responsive to the controlled vocabulary of each database
    - Each subject heading may be different in each database
Search Strategy

- **Inclusion / Exclusion Criteria**
  - Are there limitations on the studies you will review?
    - Age
    - Gender
    - Clinical population
    - Specific interventions
    - Specific outcomes
    - Study design
    - Geographic location
    - Time restrictions
    - Language
Search Strategy

- Inclusion / Exclusion Criteria
  - Are there limitations for our study?
Databases

- Determine which disciplines will best answer your research question
  - Do hospitalized children who participate in play therapy experience decreased anxiety?
  - Knowing which disciplines inform your research question will help determine which databases to choose
Databases

- Different interfaces
  - OVID
    - MEDLINE, EMBASE, PsycINFO
  - Ebsco
    - CINAHL, MEDLINE, Sport Discus, ERIC, (lots more too!)
  - Proquest
    - Proquest Dissertations and Theses

- Set up an account in each interface so you can save your searches
  - [https://library.ucalgary.ca/guides/nurs621](https://library.ucalgary.ca/guides/nurs621)
Documenting Your Search

- Where did you search (which databases)
- What concepts did you search (remember PICO)
  - Did you use keywords
  - Did you use subject headings
- When did you search
- What were the results of your search
Document Search Process

I conducted keyword searches using electronic databases such as CINAHL, MEDLINE, and PubMed during the years 2009 to 2015. Search terms I used were nurse manager and nursing management in combination with health care, business, and economics. I scanned reference lists of key articles for additional items and reviewed new releases of key journals (listed earlier). I also searched websites of government, nursing, and health care organizations in Canada for relevant documents. I conducted Google web and various newspaper searches intermittently to identify further grey literature on health care issues and concerns connected to NMs’ work. The resulting literature review provided context for my study and serves to familiarize readers with the discursive terrain over which NMs’ work is accomplished.
**Search strategy**

Review of the literature consisted of searches from five online databases: CINAHL PLUS, MEDLINE, PubMed, PsycINFO, and ERIC. The following search terms were used: (“physical activity” OR “exercise” OR “daily physical activity”), AND (“academic achievement” OR “academic performance” OR “cognitive function” OR cognition OR “cognitive abilities”, OR “student learning” OR “student learning behaviors”), AND (teachers OR “teacher perceptions” OR “teacher beliefs” OR “teacher attitudes” OR “teacher advocacy” OR “faculty beliefs”).

Searches were limited to the years 2002-2015 and only English language papers with full texts available were reviewed. Inclusion criteria included peer reviewed publications, study populations of grades 1-6 students and teachers, PA as the specified intervention, and the use of a PA measurement outcome such as number of steps taken or time engaged in PA. Exclusion criteria included a focus on minority groups, chronic illnesses, special needs, learning disabilities, or interventions pertaining to physical education classes or teachers, recesses, fitness levels, or any combined PA intervention such as nutrition, strength, or flexibility.
Common Errors in Documenting Search Process

- Misspelling or misrepresentation of databases
  - Cochrane / Proquest
    - There are several Cochrane databases – which one did you search
    - Like Cochrane, there are many databases in the Proquest interface.
  - PsychINFO or Psychinfo
    - Correct: PsycINFO
  - MeSH
    - Stating you used MeSH for every databases
- Not required to search both MEDLINE and PubMed
  - Essentially the same database
  - MEDLINE is superior for searching
Common Errors in Documenting Search Process

- Not being clear about search concepts and how they were combined
  - Mixing up Boolean logic
  - Mixing up search concepts
  - Try to be general in your accounting of the search:
    Keywords and subject headings were used for each search concept: CBT, eating disorders and self esteem. Keywords were constant across all databases, and subject headings are responsive to the controlled vocabulary of each database.

- Not stating
  - When you searched
  - Limits used (ie date restrictions, language, study type)