

Exercise 3: Compare Two Databases

Level: Introductory

Duration: 30 minutes

Setting: Canvas, Padlet, or Classroom

This exercise provides students with an opportunity to reflect on information retrieval and the significance of where and how searches are conducted. It encourages critical thinking about search strategies and database functionality.

Instructions

Divide students into small groups. Each group is tasked with searching for sources that address a specific research question.

Example question:

What does research say about a low carbohydrate diet and cardiovascular disease?

Students should use **two different databases**. One should be **PubMed**, and the second may be selected from the following options:

- Cinahl
- Embase
- Web of Science
- An AI-powered search tool such as Elicit

Student Tasks

1. **Formulate a search question** and identify relevant keywords.
 - If using an AI search tool, formulate a full question rather than isolated keywords.
2. **Construct search blocks** using the identified terms.
3. **Combine terms using Boolean operators (AND/OR)** based on the topic.
 - Example:
cardiovascular disease AND (low carbohydrate diet OR carbohydrate restricted diet)
4. **Document the search string** in Padlet or a similar platform and answer the following questions:
 - How many results are retrieved in Database 1?
 - How many relevant articles from the past year are found in Database 1?
 - How many results are retrieved in Database 2?
 - How many relevant articles from the past year are found in Database 2?
 - What are the advantages/disadvantages of Database 1?
 - What are the advantages/disadvantages of Database 2?
 - Are there benefits to using both databases?

Reflection and Discussion

Students should first reflect individually, then discuss their findings in groups.

Suggested discussion prompts:

- Are the results different? Why?
- Do the results include the same sources?
- Do AI search tools summarize sources accurately?
- When is it most appropriate to use each database or search tool?

Discussion Topics

- **Transparency** – Is it clear how the database processes search terms? Are synonyms added or queries reformulated? Is it evident which sources the database or AI tool draws from?
- **Reproducibility** – Can another person replicate the search and obtain the same results?
- **Reliability** – Is bias reproduced? Are factual elements preserved? Do AI tools generate hallucinated or misleading content?