

How does it work? Database edition

At the library, we like to recommend that people consult a research database when they're doing the research. Research databases provide access to many kinds of documents from newspaper articles, to books, to high quality peer reviewed articles. You may not be aware of how databases really work, and in this video, we'll look at how databases are structured. Knowing this will help you to create better search strategies and retrieve more relevant results quickly and efficiently.

To start, a database's basic structure consists of fields, records and tables. Here's a simplified example of a database of books.

You might notice the structure of a database at the table level is very similar to a spreadsheet. A field roughly corresponds to a column in a spreadsheet, and a record is similar to a row. Fields store a single kind of information related to a topic; for example, the names of book titles. Records are collections of fields containing multiple kinds of information about an item in the database. In this case, the record includes fields showing the author, title, publisher, and date of publication of a particular book.

A database table is the ordered collection of fields and rows together.

Databases are usually made up of multiple tables joined together. What's important to know about databases is that they're designed to quickly search and efficiently retrieve and display information that you query or ask them about. Knowing the right fields to query can help really speed up your research process and help you. Narrow down to precise relevant results. Let's now see this in action.

This is the web interface to the ProQuest database. It looks like a webpage with some search boxes. The interface is a portal where you can use a search engine to search through one or many databases.

The dropdown menu bars at right tell the search engine what fields to search in for the terms in the search box at left. Let's put in an example. In this case, we'll search for the terms social media and climate change. When we do this, by default the search engine searches a number of predetermined fields for our terms. On the dropdown menu at right, we can see what these are. We see "Anywhere except full-text" is being searched. This means the search engine is searching in any field except the full text of the article.

But we're retrieving a lot of results because the search is run across many fields. In the case of ProQuest in this example, we're actually searching across seven different fields of information. However we want more precise results that will be relevant to our topic. To do this, we'll specify what fields in the database we want to search in.

We could specify to search for our terms only in the abstract, or the subject headings, or the title field.

Title field searching is the most narrow because you're specifying your terms have to be found in the title of a document. If you find results here, they should be very relevant and precise to your search terms. Searching in the abstract field should result in higher numbers than title searching because abstracts may use particular terms multiple times, and have more text than you'd find in a title.

"Full text" searching searches the full text of the article and is a broader search than abstract searching.

"Anywhere" searches all fields available and is the broadest search we can do.

Most research databases allow you to add in additional search boxes to search for multiple terms across multiple fields.

This is where you start to see the power of databases and how field searching can allow you to create sophisticated searches to really narrow your results.

If you have any questions, ask us at library.wlu.ca/help/askus