A guide to electronic databases

Win Pang

Electronic databases will play an important role in your doctoral journey, especially when it comes to literature searching. Being able to use them with confidence will make a difference to your academic research experience.

It may have been some time since you searched for academic literature or perhaps you are nervous using them. There could be several reasons for this: you may not be aware of the electronic databases or what they do, you may not know how to use them, they may look complicated and overwhelming, or you may prefer print format.

This section will provide an overview of electronic databases and the reasons why they are an important tool for your doctoral journey.

Once you have enrolled on your EdD, depending on your institution, you may have a library induction to attend. This is probably the last thing you think you need, and it is tempting to skip. A lot of information has already been thrown at you and you may think that you can just 'pick it up' along the way, perhaps so, but let's make use of the support available to you. The induction is a good way to know what services are available to you as a student, provides advice on navigating the library electronic and physical resources and signposts you to where things are.

If there isn't a library induction or you unable to attend, then get in touch with your librarian to find out what services and resources are available, or maybe within your cohort arrange an individual/group catch-up session.

The sooner you familiarise yourself with the services and utilise them (such as how to sign in to access e-resources, reference management software, inter-library request services, Sconul Access, etc.), the less anxious you may be when it comes to your first assignment or task. Start with your institutional library website, usually there is a subject page that will list the relevant resources such as electronic databases for your subject, for example https://libguides.uel.ac.uk/Subject-support-guide . If not, get in touch with your institution's library and they will signpost you in the right direction.

What is an electronic database?

The library electronic database in general is a collection of data, usually hundreds and thousands of sources, that can be searched and accessed electronically. Some electronic

databases will contain full text access to literature, and some will only contain abstracts and citations and not the full text.

You will come across electronic databases that contain literature such as books, conference papers, dissertations, videos and reports. Note that not all electronic databases only contain journals, some specialise in other materials such as audio-visual resources and some will only contain materials focusing on specific subject areas.

With online library electronic databases, you can search using words relevant to your research interest. Before library electronic databases were accessible online and remotely, you would have had to use the physical indexes of each journal title and look for a specific word or phrase in the index then locate the specific journal issue in the library and then find the page reference. At this point, you may have made a photocopy of the articles you have found. You would have also had to schedule time to go to the library to do this. The convenience of online electronic databases has made literature searching less laborious, they provide access to so much more literature and offer convenience as you are no longer restricted to the collection that is only available in the physical library or the opening hours of the library. If you have internet and a device (smartphone/ tablet/ laptop or desktop), you can now instantly search and access literature anytime and anywhere at your convenience.

In your daily routine it is likely that you are already using an electronic database or components of electronic databases, from signing into the resource (such as accessing your email), thinking of what words or phrases to use to search (selecting a song on Spotify), selecting the appropriate category to find an item (online shopping), selecting the correct resource to look for the item (holiday booking, food shopping, restaurant reviews) , navigating and using filters to narrow down your results (price, relevance, newest etc.) checking the product description for relevance and finally, saving, downloading or printing off the results or final product (i.e. tickets or booking confirmation). You will find electronic databases follow a similar pattern; sign in > enter search words > get results > use filters to narrow down results > assess and evaluate > read/ download/ save or print document.

If the thought of using electronic databases and electronic resources feels intimidating or overwhelming, your institution should have a designated librarian who can guide you through the basics of the electronic databases. As a librarian I always hope that our users make good use of the resources available and ask for help or advice on getting the best out of the library and resources. You will also find that the electronic databases have very good online help guides, many offer video content which you can dip in and out of and

rewatch as many times as you need to. Like many apps, electronic databases may make small changes to their interface and functionality, and it is a good idea to check the guidance and help guides of electronic databases if you have not used them before or infrequently, before you start using them. I suggest checking the guidance notes on the use of Boolean Operators and search tips (if available) as these functions can vary amongst the electronic databases. On a side note, Boolean operators, truncation and wildcards are very useful commands to know in general, you can also apply them to everyday searches in online search engines. My favourite tip is the quotation marks for phrase searching which you can apply to academic searching and general searching on search engines.

Also check if the electronic database offers generative AI (Artificial Intelligence) capabilities/ functions as this will have an effect on your search experience.

It is unlikely that you will be able to avoid using electronic databases at all during your doctoral studies. Although free online search engines are available and easy to use, compared to electronic databases they will not be as comprehensive with journal content access, or you find that you may have to pay to access the full text (never pay, always check your library catalogue or library first) or you may find that it lacks specialist resources in a particular discipline compared to the electronic databases and journals your university library has access to (for example, some electronic databases to name a few: IEEE Xplore Digital Library, APA PsycInfo, JSTOR, Westlaw etc.).

Which electronic database should I use?

Check your university library website for subject pages for resources relevant to your subject area or look for a list of electronic resources and databases relevant to your subject area.

Electronic database provision will vary between different institutions, so there may be some platforms mentioned in this text that your institution will not have but may have a database that is the equivalent or similar.

Depending on your research area, the following electronic databases are good places to start. They are multidisciplinary, covering many subjects, contain full text access to literature where available, are easy to use and navigate and have good online help guides; EBSCO Academic Search Complete, Proquest Central, JSTOR and ScienceDirect.

Consider exploring electronic databases that focus specifically on your subject area or discipline such as the following from EBSCO; British Education Index, Business Source Complete, CINAHL and APA PsycINFO. These databases will contain journal titles and

literature from that discipline. Usually when you select your database there will be information on what it contains, a list of journal titles and coverage. You may also come across databases that will only contain literature published by the publisher of the platform (such as Taylor and Francis Online, Oxford Academic Journals, Wiley Online library, Emerald Insight). These platforms help users discover articles of similar interest and are quite easy to navigate but the journal coverage may not be as comprehensive compared with the multidisciplinary electronic databases mentioned. A handy tip, if you find an article from a publisher platform but full text is not available (even after signing in), do check the reference in your library catalogue, as full text access may be available from another provider.

In addition to subject coverage, there are two types of electronic databases; full text and abstract and citation. Examples of a full text electronic database include JSTOR and Education Research Complete which contain full text access to articles (where available) which you can read immediately and download. In comparison, electronic databases such as Scopus and Web of Science, where full text is not available directly on the platform as they only contain abstract and citations only, are useful for citation searching and analysis (if you are planning to publish in a journal, these two databases are useful for checking the impact factors of journal titles). The good news is that most electronic databases are linked to your university library catalogue so even if the article is not available as a full text, there may be a link resolver embedded (depending on your institution, usually identified as 'Check for full text access' or 'Look for full text') in the electronic database connected to your library catalogue, so check within your library collection to see if a full text is available.

The main content of electronic databases are academic journal titles, but you will come across some electronic databases that will also index other types of literature ranging from e-books, trade magazines, newspapers to grey literature such as reports, conference papers and theses etc. (such as ERIC). You may also come across electronic platforms that do not contain literature at all but audio-visual resources only such as Box of Broadcasts and Faculti.net

The main function of electronic databases is to find and retrieve literature. However, as you explore the platform you will come across other functions. For example, some databases such as APA PsycInfo and SPORTDiscus will have a thesaurus function or subject headings which is useful if you are not sure what word or phrase to use for searching, using the thesaurus or subject heading will help you retrieve literature that is related to the term you are looking for.

Most electronic databases will have the function of exporting citations to reference management software. If you are not using reference management software, some electronic databases may offer a 'Cite' function where you can copy and paste the reference in the preferred referencing style – I would advise to use this with caution as the reference may not follow the exact standards to the referencing system. Use the function for drafts but do double check with a referencing guide to make sure the citation follows the correct standards.

Other useful things electronic databases can do

Usually once you have signed in via your institution or authentication system you do not need to create an account to do searching and accessing literature. As you engage more with the electronic database, you may want to make use of the extra services and tools available for convenience. For example, saving items to a 'folder' on the platform, saving your search history or saved searches so you can resume your search anytime without having to re-enter the search terms and combinations.

Other tools include registering for new journal article alerts. This is a useful service to set up as you will not have time to constantly check for new publications of your interest. Register your relevant keywords or journal titles of interest and you will receive an email whenever a new article or publication matching your criteria is available. To make use of these functions, you will need to sign up for a free account with the electronic database. With some databases such as EBSCO, you can sign in with your Google account instead.

Electronic databases are constantly evolving, developing new functions and tools, tweaking the interface to enhance your literature searching experience. It is expected to see generative AI (Artificial Intelligence) being introduced or even at the early stages of being embedded into the electronic databases. It is still important to know the basics of electronic database searching (keywords, Boolean operators and short cuts).

Whilst generative AI tools are becoming more accessible and a common feature in everyday life, they should not be expected to replace the process of finding literature in electronic databases but as an additional tool to support the literature searching process.

All these extra functions and features can be overwhelming. You are not obliged to use them and if you have a system that works for you then that is fine. Just be aware that they are there should you need to make use of them.

Why shouldn't I just search in my institutional library catalogue?

Depending on your institution, you may have a separate library catalogue which you can use to look for resources such as books, journal titles and articles. Your library catalogue

will contain full text access to articles from direct journal subscriptions or via read and publish agreements but may not have as large a range as the content contained in electronic databases such as EBSCO, JSTOR and Proquest to name a few. Start with your library catalogue first and then expand your search using the electronic databases. Some journals and content may also be exclusive to the electronic databases and not indexed in your institution's library catalogue (i.e. Westlaw). The electronic databases will expose you to more content including journal titles that have not been subscribed to by your institutional library compared to the content available from your institution's library catalogue.

Electronic databases are not just for academic research, you can use them for current awareness, to gain more knowledge for your profession or for personal interests. Some databases will contain periodicals such as trade magazines, newspapers and magazines which you can access full text. If using the electronic databases seems boring or you are worried about not being able to find anything, search for a topic that you are interested in and see how the electronic database reacts to the search term or terms. Play with the filters to see how they impact your results. Try searching using a broad search word and then try again with specific search words/terms. See what impact using the Boolean operators, truncations and wildcards has on your search results.

When using electronic databases, we tend to enter our search query in natural writing like a sentence or as a question but (depending on the electronic databases) this can yield poor results. Electronic databases do not work like that, and it is tempting to search how you would in online search engines. For best results you will need to select the main words that are KEY to your question for the electronic database to match articles relevant to you. Keep the search string simple, start with 2-3 search words and then review your results. If you get lots of results you can always add more search terms as well as use the filters available to narrow down your search. If you get few results or no results, retry but consider using broader search terms in the search and see how that affects your results.

What about Google Scholar?

Google Scholar is useful especially if you are not familiar with the topic and need some search terms and academic literature to help provide some ideas. It is easy to access, free and possible to link up to your institution's library catalogue. It should not be the only tool you use to look for literature and if it is the only search tool you are using to look for academic literature, please do contact your librarian for a chat about the electronic databases available to you. Compare the results retrieved when you use electronic databases, consider the following; how are your results sorted? By relevance to your search terms? By date newest? By the number of citations? Use Google Scholar in

conjunction with electronic databases you have access to, to act as a bridge between resources available from your university library.

Unlike electronic databases from your library, Google Scholar does not have a 'Peer reviewed' function or anyway to only show peer reviewed articles, so you will need to be vigilant in checking that a resource you have found on Google Scholar has been peer reviewed or from a peer reviewed journal title. For example, you may come across 'preprint articles' from repositories awaiting to be peer reviewed so you will need to do additional checks

Benefits of using electronic databases from your library

- Assurance that only good quality journal titles are indexed
- Full text articles free to download and read (no need for your own personal subscription or extra payment)
- Access a wide range of literature / resources
- Find and identify peer-reviewed literature instantly
- Can access anywhere (internet and device permitting)
- Newly published articles are added on a regular basis

Bear in mind…

Electronic databases are useful to find out what research has been published, popular topics and themes but sometimes there just isn't any literature matching your topic. This can be disheartening; perhaps it is because your search terms are too specific, or perhaps the area hasn't yet been researched or published, but do double check by searching in other electronic databases and check in with your librarian for further advice.

You still need to evaluate your literature even when using electronic databases. The advantage of using electronic databases from your institution is that you have all the information within your search results (i.e. article title, author information, year of publication, journal title and abstract) to help you assess if the resource meets your needs. Some databases such as EBSCO Academic Search Complete and Proquest will have an option where you can set to show only 'Peer reviewed' literature whereas in databases such as Scopus and ScienceDirect you will need to set the filters to the article type. Make use of the additional filters available such as publication date, to help you further narrow down your results depending on your criteria.

Reasons why you may avoid electronic databases

- Incompatible with my work sign in, you may have log in for your workplace which clashes with your institutional login, although you can sign in, you may not be able

to access your institutional emails or have full access to electronic resources. If so, open a web browser in 'Incognito'or 'InPrivate' mode so that you can sign in with your institutional login. If this does not solve the issue, contact your library helpdesk for further advice.

- Electronic databases look complicated to use; it is likely that you have already been using many components of electronic databases in your daily routine. Remember the main function of electronic databases is to find relevant literature. Take your time with the electronic databases, do not get too caught up in trying to make use of all the available functions, especially as you may not need to use them immediately. Do remember, support is available via your library. Even if you are familiar with electronic databases, it may be a good idea to schedule a catch up with your librarian every now and then for a refresher as the databases do have annual updates, new components and services added.

- "I don't have time", using electronic databases can save you lots of time. Schedule 15 minutes a day to do some searching and see how it goes. You can register for an account with the electronic database and make use of the time saving functions such as notification alerts so that you are notified when literature of interest is published. If available, save your search strings or search history so that you can resume your search later, retrieve the search results or as an inventory storing the search words and combinations used.

- "I just use Google Scholar or other online search engines". As useful as they are, it is not enough. The electronic databases available from your institution may have exclusive access to journal titles and indexes that Google Scholar cannot or does not have access to. Also, it is not advised to only use one electronic database for literature searching; you want to be as comprehensive in searching and cover as many resources available to you.

I hope this section will make you feel motivated to explore the electronic databases or perhaps ask for guidance on using the electronic databases. It is understandable to find electronic databases daunting or overwhelming, especially as there seems to be so much to take in. Please do not spend hours searching online 'which is the best electronic database for my research?' or 'is this journal academic?' save time and energy and ask your librarian, whatever stage you are at in your studies, do not be embarrassed to ask for help.

Electronic databases are there to help you find literature and readings of interest, not to make your academic life difficult. The benefits of using these amazing tools outweigh the disadvantages and will make such a difference to your literature searching and research. Remember there is always support available to help you get started and signpost you along the way so that you can get the best out of not only the electronic databases but also the other services provided by the library as well.

Task:

1. Explore your university library subject pages or electronic databases.
2. Find a suitable electronic database (if you have access to EBSCO or Proquest Central start with them).
3. Think of a general topic you are interested in, put one or two words that are relevant in the search box and hit search.
4. If you didn't get any results – it could be the electronic database isn't suitable for your topic, change your topic. If results were retrieved, check if there are filters and use the filters to narrow down your results (i.e. time frame/ year of publication, peer review, type of literature).
5. Review your results – look at the abstracts. Look out for more words you can use in your later searches.
6. See what other functions are available and check the help guides.
7. Now try another electronic database using the same search words from your first search and compare the results.
8. Get in touch with your subject librarian from your own academic institution for further guidance and support on using the electronic databases.

References

Booth, A., Sutton, A. and Papaioannou, D. (2016) *Systematic approaches to a successful literature review*. 2nd edn. London: Sage.