MME 4015

Academic Ethics and Literature Search

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MME 4015 - Academic Ethics and Literature Search

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ACADEMIC ETHICS

FORMS OF ACADEMIC MISCONDUCT

1. Cheating
2. Plagiarism and other misappropriation of the work of another
3. Falsification of data
4. Improperly obtaining or representing laboratory or field data
5. Dishonesty in publication
6. Publication or attempted publication of collaborative work without the permission of the other participants
7. Abuse of confidentiality
8. Misuse of computer facilities
9. Misuse of human subjects
10. Misuse of vertebrate animals
11. Illegally or carelessly obtaining or using dangerous substances, or providing such substances to others
12. Falsification or unauthorized modification of an academic record
13. Obstruction of the academic activities of another
14. Other forms of academic misconduct that are commonly accepted within the scientific community
15. Aiding or abetting academic misconduct
16. Attempted academic misconduct

PRESSURES OF ACADEMIC EXCELLENCE

- Deadlines
- Misunderstanding
- Mistakes
- Disinterest
- Grade competition
- Team-based projects

*MIT OpenCourseware, Ah! Headache!, Flickr

ACADEMIC INTEGRITY

"Academic integrity is a commitment,
even in the face of adversity,
to five fundamental values: honesty, trust, fairness, respect,
and responsibility.

From these values flow principles of behavior that enable
academic communities to translate ideals into action."

*Paul Conway,
Lecture Notes, University of Michigan

*Center for Academic Integrity.
The Fundamental Values of Academic Integrity, 1999.

Academic integrity involves..

- Expressing your ideas in your own words.
- Demonstrating your understanding and sharing your personal perspectives.
- Acknowledging others' work and contributions.
- Respect for others, yourself and your college.

*http://learntocite.dmacc.edu

How is academic dishonesty defined?

1. Plagiarism

- Intentionally using another person's writing/academic work and submitting it as your own.
- Failing to correctly cite another person's writing/academic work.

*http://learntocite.dmacc.edu

WHAT IS PLAGIARISM?

- "Plagiarism is expression that *improperly* and *deceptively* incorporates existing work either *without authorization* or *without documentation*, or both."

- The limits of deception are relative to the context in which ideas, knowledge, and information are communicated.

  - Ghostwriting
  - Advertising
  - Open source software

*John Snapper, (2008) "The Matter of Plagiarism," p. 534

How is academic dishonesty defined?

2. **Falsification**
   - Falsifying an exam, paper, project, application, transcript or test using dishonest means or assisting another student to do so.

3. **Unauthorized collaboration**
   - Using materials or collaborating with another person(s) during a test or other assignment without authorization.

4. **Substitution**
   - Substituting for another student or permitting another person to substitute for oneself during an exam, course, or on other work.

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How is academic dishonesty defined?

5. **Cheating**
   - The acquisition of grades, academic credits, degrees, honors, awards, certification, or professional endorsements by means of cheating.

6. **Failure to Comply**
   - Failing to comply with the policies of the student's program or department as stated in publications.

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Examples of Academic Misconduct

1. Buying, stealing or borrowing a paper.
2. Hiring or asking someone to complete coursework or take a test.
3. Copying from another source without citing (intentionally or by accident).
4. Cutting or pasting text or graphics from Internet sources without proper citation.
5. Using the source too closely when paraphrasing without proper citation.

*www.library.dmacc.edu/PublicPages/Plagiarism.htm

Document (cite) the following sources:

- Summaries, paraphrases, or direct quotations from a source
- Reprints of diagrams, illustrations, charts or pictures
- Little-known facts
- Other people's opinions
- Results of other people's research (opinion surveys, case studies, statistics etc.)
- Quotations or paraphrases from people you interview

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Documentation is not required:

- Common knowledge (facts that can be found in many places and are likely to be known – Ex. The sun rises in the east.)
- Your own ideas, opinions, or conclusions
- Your own research (Unless it is published)

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How to recognize plagiarism

Here is the original text from an article in the March 2004 issue of *Scientific American*:

Original: Over the past few million years the earth's climate has swung repeatedly between ice ages and warm interglacial periods. A 400,000-year record of temperature is preserved in the Antarctic ice sheet, which, except for coastal fringes, escaped melting even in the warmest interglacial periods. This record suggests that the present interglacial period (the Holocene), now about 12,000 years old, is already long of tooth. (Hansen 70)

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Plagiarism Example 1:

According to Hansen, the record suggests that the present interglacial period (the Holocene), now about 12,000 years old, is already long of tooth (70).

- **Why is it plagiarism?** Even though the information source is documented, this is plagiarism because the writer didn't indicate that a phrase was borrowed word-for-word. To correct the problem, enclose the borrowed words in quotation marks.

- **Acceptable:** According to Hansen, the "record suggests that the present interglacial period (the Holocene), now about 12,000 years old, is already long of tooth" (70).

Original: Over the past few million years the earth's climate has swung repeatedly between ice ages and warm interglacial periods. A 400,000-year record of temperature is preserved in the Antarctic ice sheet, which, except for coastal fringes, escaped melting even in the warmest interglacial periods. This record suggests that the present interglacial period (the Holocene), now about 12,000 years old, is already long of tooth. (Hansen 70)

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Plagiarism Example 2:

Over the past few millennia, the climate of the earth has swung back and forth between ice ages and warm periods. The record of temperature preserved in the Antarctic ice sheet suggests that our current warm period is already long in the tooth.

Original: Over the past few million years the earth's climate has swung repeatedly between ice ages and warm interglacial periods. A 400,000-year record of temperature is preserved in the Antarctic ice sheet, which, except for coastal fringes, escaped melting even in the warmest interglacial periods. This record suggests that the present interglacial period (the Holocene), now about 12,000 years old, is already long of tooth. (Hansen 70)

- **Why is it plagiarism?** This is plagiarism because the writer has only changed a few words or phrases, and the writer has also failed to cite a source for any of the ideas or facts. Two acceptable texts, one using a paraphrase and the other using a combination of paraphrase and direct quotation, are shown below.

- **Acceptable:** Studies of the Antarctic ice sheet show that earth's climate has cycled between ice ages and warm periods and back again over time, and that our current warm period has already lasted longer than usual (Hansen 70).

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Example: Especially in SOFCs, La-based ABO_3 perovskite-type oxides, including (La,Sr)CoO_3 (LSC),[1,2] (La,Sr)FeO_3 (LSF),[3,4] and (La,Sr)MnO_3 (LSM),[5] are state-of the-art cathode materials, offering high oxygen reduction activity and oxygen ionic conductivity. Cation chemistry at cathode surfaces mainly governs the reactivity and stability for the oxygen reduction reaction (ORR).[6]

References

1 L. Ge, R. Ran, K. Zhang, S. Liu and Z. Shao, *J. Membr. Sci.*, 2008, **318**, 182–190.

2 K. Watanabe, M. Yuasa, T. Kida, K. Shimanoe, Y. Teraoka and N. Yamazoe, *Solid State Ionics*, 2008, **179**, 1377–1381.

3 J. Sunarso, S. Baumann, J. M. Serra, W. A. Meulenberg, S. Liu, Y. S. Lin and J. C. Diniz da Costa, *J. Membr. Sci.*, 2008, **320**, 13–41.

4 Y. Tao, J. Shao, J. Wang and W. G. Wang, *J. Power Sources*, 2008, **185**, 609–614.

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6 N. Tsvetkov, Q. Lu, L. Sun, E. J. Crumlin and B. Yildiz, *Nat. Mater.*, 2016, **15**, 1010–1016.

7 L.-W. Tai, M. M. Nasrallah, H. U. Anderson, D. M. Sparlin and S. R. Sehlin, *Solid State Ionics*, 1995, **76**, 259–271.

8 Z. Gao, L. V. Mogni, E. C. Miller, J. G. Railsback and S. A. Barnett, *Energy Environ. Sci.*, 2016, **9**, 1602–1644.

Example: It is well known that change in resistivity correlates well with the solubility of hydrogen in the lattice [39]. This was clearly shown for bcc membranes by Watanabe et al. [44] and for fcc alloys by Pozio et al. [46] in which the resistivity change was followed as a function of dissolved hydrogen.

References

[42] M.V. Mundschau, Hydrogen separation using dense composite membranes: Part 1 fundamentals, in: Inorg. Membr. Energy Environ. Appl., Springer, New York, New York, NY, 2009, pp. 125–153, https://doi.org/10.1007/978-0-387-34526-0_8.

[43] F.M. Smits, Measurement of sheet resistivities with the four-point probe, Bell Syst. Tech. J. 37 (1958) 711–718, https://doi.org/10.1002/j.1538-7305.1958.tb03883.x.

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[45] F.A. Lewis, S.G. McKee, hydride formation by nickel, palladium and platinum, in: Met. Syst., Elsevier, 1982, pp. 423–436, https://doi.org/10.1016/B978-0-08-027311-2.50043-7.

[46] A. Pozio, Z. Jovanović, R. Lo Presti, M. De Francesco, S. Tosti, Pd–Ag hydrogen content and electrical resistivity: temperature and pressure effect, Int. J. Hydrogen Energy 37 (2012) 7925–7933, https://doi.org/10.1016/j.ijhydene.2012.01.108.

[47] V. Antonov, I. Belash, V. Malyshev, E. Ponyatovsky, The solubility of hydrogen in the platinum metals under high pressure, Int. J. Hydrogen Energy 11 (1986) 193–197, https://doi.org/10.1016/0360-3199(86)90083-2.

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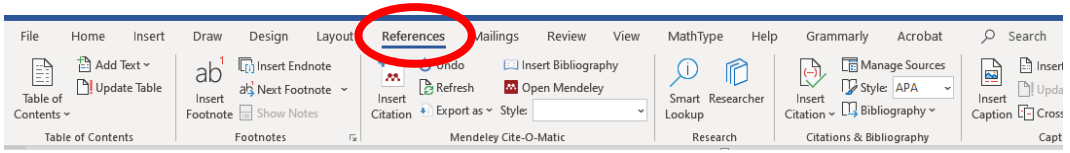
Free software for reference manager…

MENDELEY



https://www.mendeley.com/download-desktop/

Techniques to Avoid Plagiarism

- Record relevant documentation information (i.e. author, page number, doi etc.) in your notes accurately and completely.
- Indicate in your notes which *ideas (emphasis)* are taken from sources and **which are your own thoughts or insights**. Be sure to keep this distinction clear in your paper.
- Put all words borrowed from sources inside quotation marks. In your notes, you might want to circle the quotation marks so you'll be sure to include them in your paper.
- **When paraphrasing or summarizing information from a source, use different words and sentence structures than the original text. Remember - a citation is still required!**

*http://learntocite.dmacc.edu

Writing Tips:

1. Reread your source until you understand it.
2. Write your **paraphrase or summary without looking at the original text**, **using your own words and phrasing**.
3. Next, check your version with the original.
4. Make corrections for clarity, accuracy, and mistakenly borrowed phrases.

**** Remember to provide citations to paraphrased (as well as directly quoted) materials!***

*http://learntocite.dmacc.edu

Resources

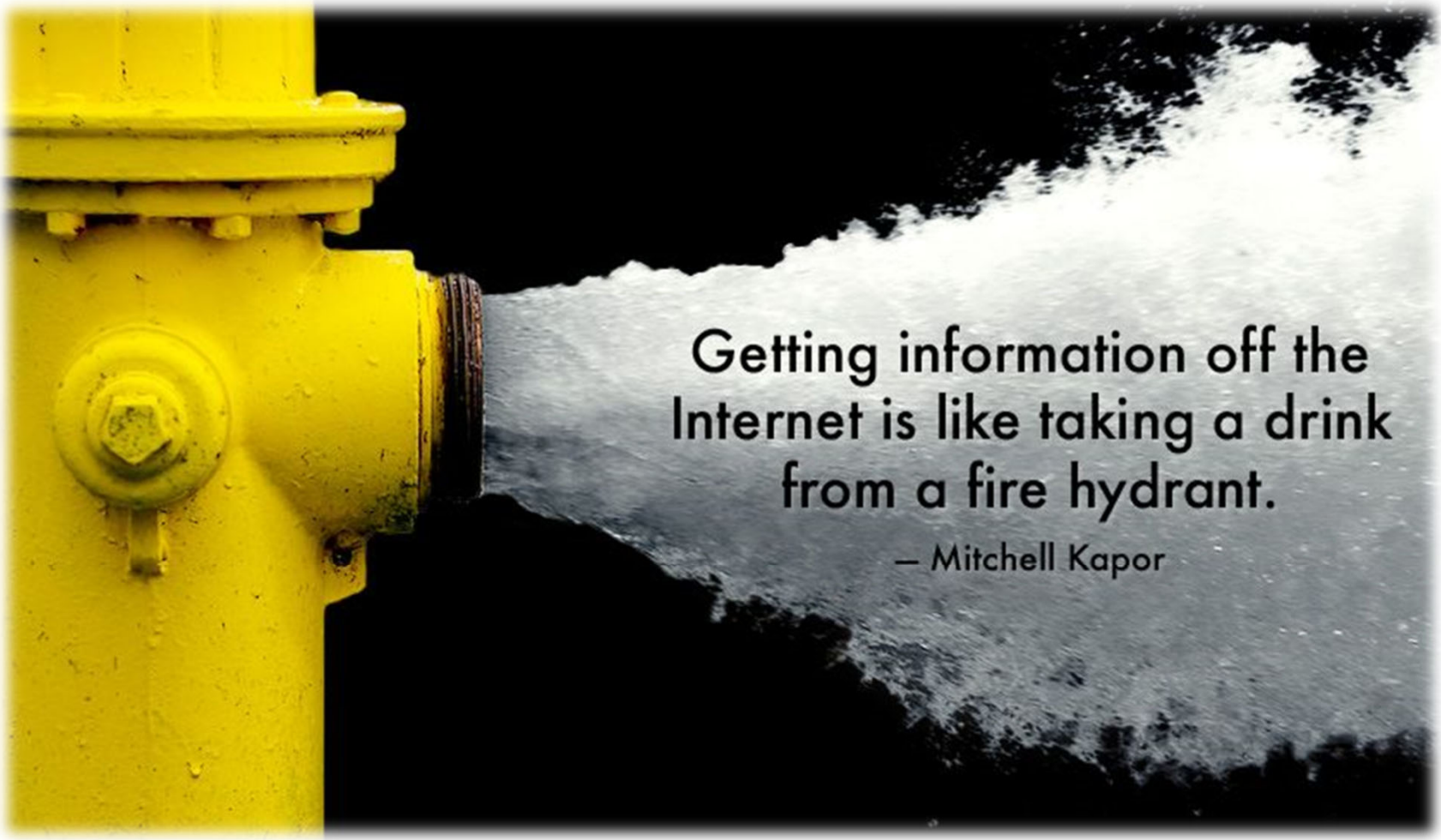
- Lipson, Charles. Doing honest work in college - how to prepare citations, avoid plagiarism, and achieve real academic success. Chicago: University of Chicago Press, 2004. (DMACC Library call number: PN171 F56 L56 2004)

- Caught cheating. ABC News Productions. ABC News. 2004 (DMACC Library call number: LB3609 C38 2004)

- Lanthrop, Ann and Kathleen E. Foss. Guiding students from cheating and plagiarism to honesty and integrity: strategies for change. Westport, CT: Libraries Unlimted, 2005)

- Academic Integrity at DMACC, http://learntocite.dmacc.edu

LITERATURE SEARCH


Getting information off the Internet is like taking a drink from a fire hydrant.
– Mitchell Kapor

INTRODUCTION

- **Literature** is a term used to describe written or spoken material. Broadly speaking, "literature" is used to describe anything from creative writing to more technical or scientific works, but the term is most commonly used to refer to works of the creative imagination, including works of poetry, drama, fiction, and nonfiction.

- **Literature**, a body of written works. The name has traditionally been applied to those imaginative works of poetry and prose distinguished by the intentions of their authors and the perceived aesthetic excellence of their execution.

WHAT IS SEARCHING ?

- To look for specific data in a file or an occurrence of text in a file.
- A search implies either scanning content sequentially or single algorithms to compare multiple indexes to find a match.
- A search on the Web yields a list of Web pages that contain **all the words in the search criteria**.
- Contrast with a "direct lookup," whereby a single index is used to keep track of data.

LITERATURE SEARCH

- A literature search is a well thought out and organized search for **all of the literature published on a topic**.
- **A well-structured literature search is the most effective and efficient way to locate sound evidence on the subject you are researching.**
- Evidence may be found in **books, journals, government documents and the internet**.
- A literature search is a systematic and thorough search of all types of published literature in order to identify a breadth of good quality references relevant to a specific topic.
- **The success of your research project is dependent on a thorough review of the academic literature at the outset.**

Creating a Question

- **Creating a well-focused question** is the first step in a literature search.
- Having a clear idea of what you are researching will keep you on track with your searching, saving you valuable time.
- **A focused question will give you a better start with your search because it will help you determine appropriate keywords and limitations for your topic.**
- When forming your question, make sure you are **specific about your research topic**.

RESEARCH QUESTION

- A research question defines the scope of an area of inquiry. It asks about the causal relationship between x and y. It is founded on a **deep understanding of works** in the relevant area(s) of study and informed by both what is known and not yet known in that area.

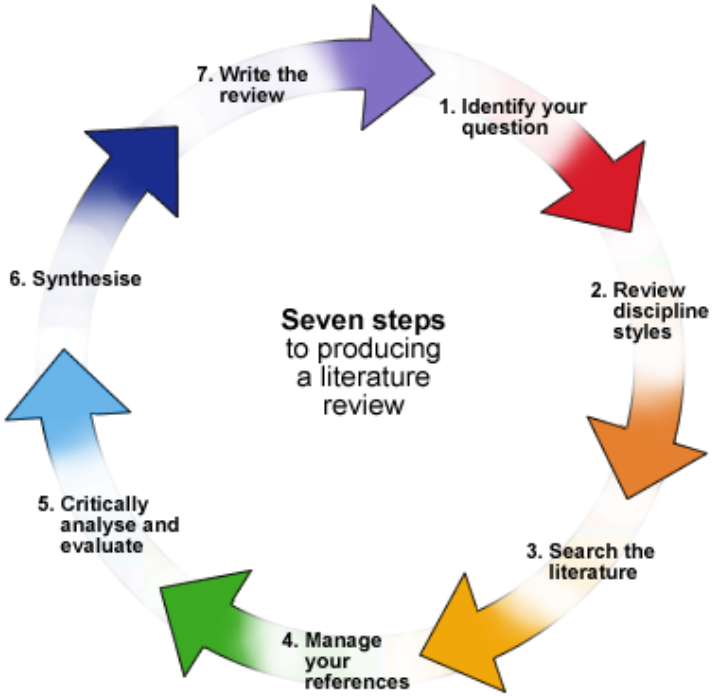
RESEARCH PURPOSE

- The research question guides your literature review by establishing its parameters and articulating a researchable question.

LITERATURE REVIEW: PROCESS

It is a research journey with several steps:

- Framing a research question
- Searching relevant bodies of literature
- Managing search results
- Synthesizing the research literature
- Writing an assessment of the literature



*https://dkit.ie.libguides.com/literaturereview

LITERATURE REVIEW: PROCESS

- Identify article databases for bodies of literature relevant to your research question.
- Use language from your research question to begin your search and then map your language to the subject vocabulary of the databases you are searching in.
- Use cited reference searching to find later works that cite a particularly useful work.

SOURCES OF INFORMATION

- DIGITAL LIBRARIES
- INSTITUTIONAL REPOSITORIES
- SUBJECT GATEWAYS
- PORTALS
- CONFERENCE PAPERS
- GOVT.PUBLICATIONS
- IMAGES
- LAWS AND STATUES
- NEWSPAPER ARTICLES
- STANDARDS
- STATISTICS - YEAR BOOKS
- THESES and DISSERTATIONS

Digital Resources

- Search Engines
- Library Portals
- Library Resources
- E-Books
- E-Journals
- E- News Papers
- E-Statistics
- E-Theses and Dissertations
- Databases
- Library Networks
- Subject Gate ways
- FAQ’s
- Digital Archives
- Discussion Forums
- Virtual Conferences
- Virtual Help Desks

SOURCES OF INFORMATION

Books

- Books can be a good start on a topic, giving you **general** or **specific** information.
- Check that the book you are referring to is up to date.
- You can find books on your area of research in an academic or special library.
- Consult with the librarian to help you find any books that you need.

SOURCES OF INFORMATION

Journals

- Journal articles are one of the best sources of information as they can be selected for being current and specific.
- Most of the important and ground-breaking research is published in journals.
- Journal articles are best found using citation databases.

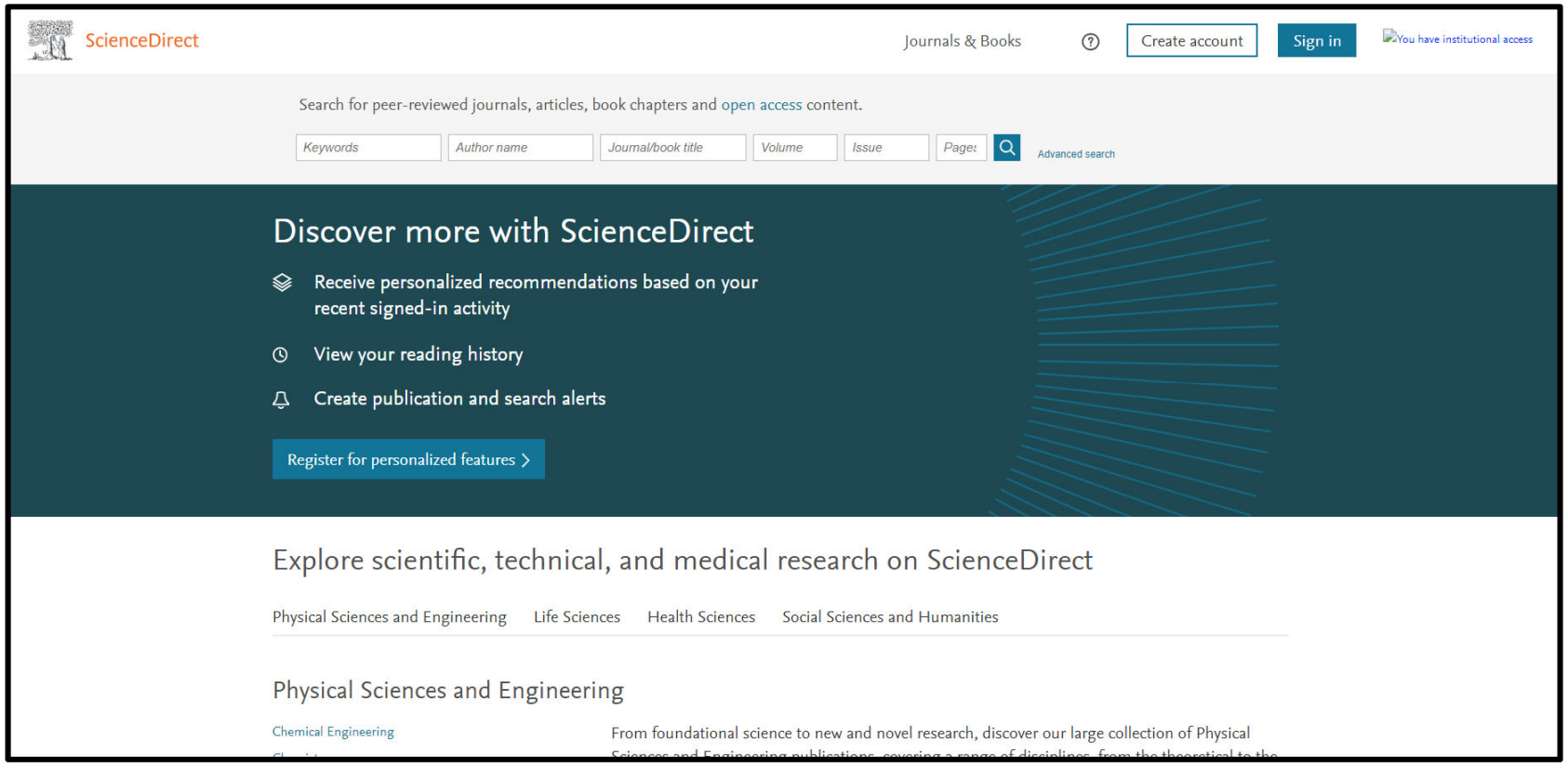
SOURCES OF INFORMATION

Databases for Journals

- Web of Knowledge
- Scopus
- Google Scholar
- IEEE Digital Library
- ASME Digital Collection etc.

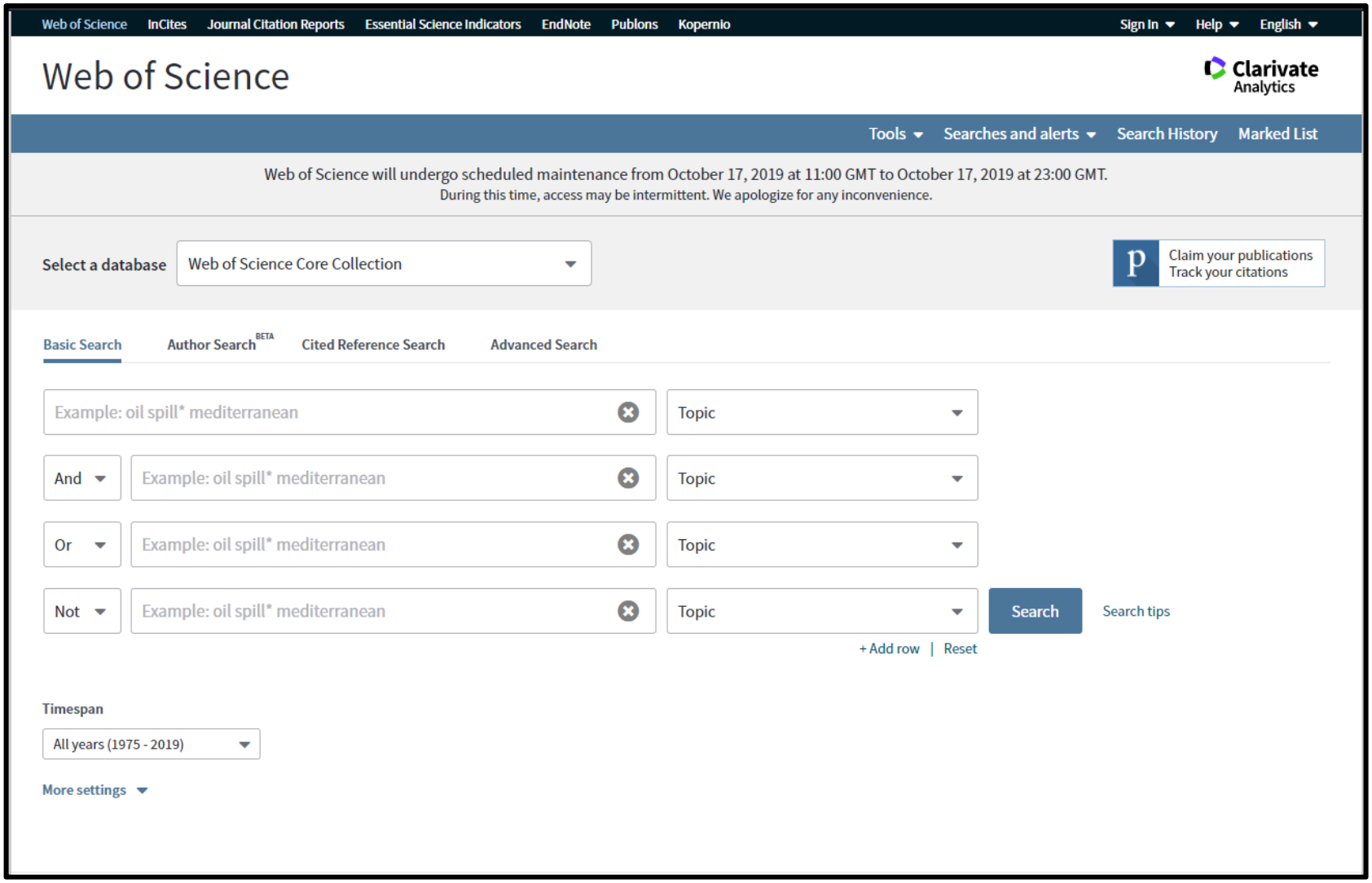
Databases for Journals

https://www.sciencedirect.com



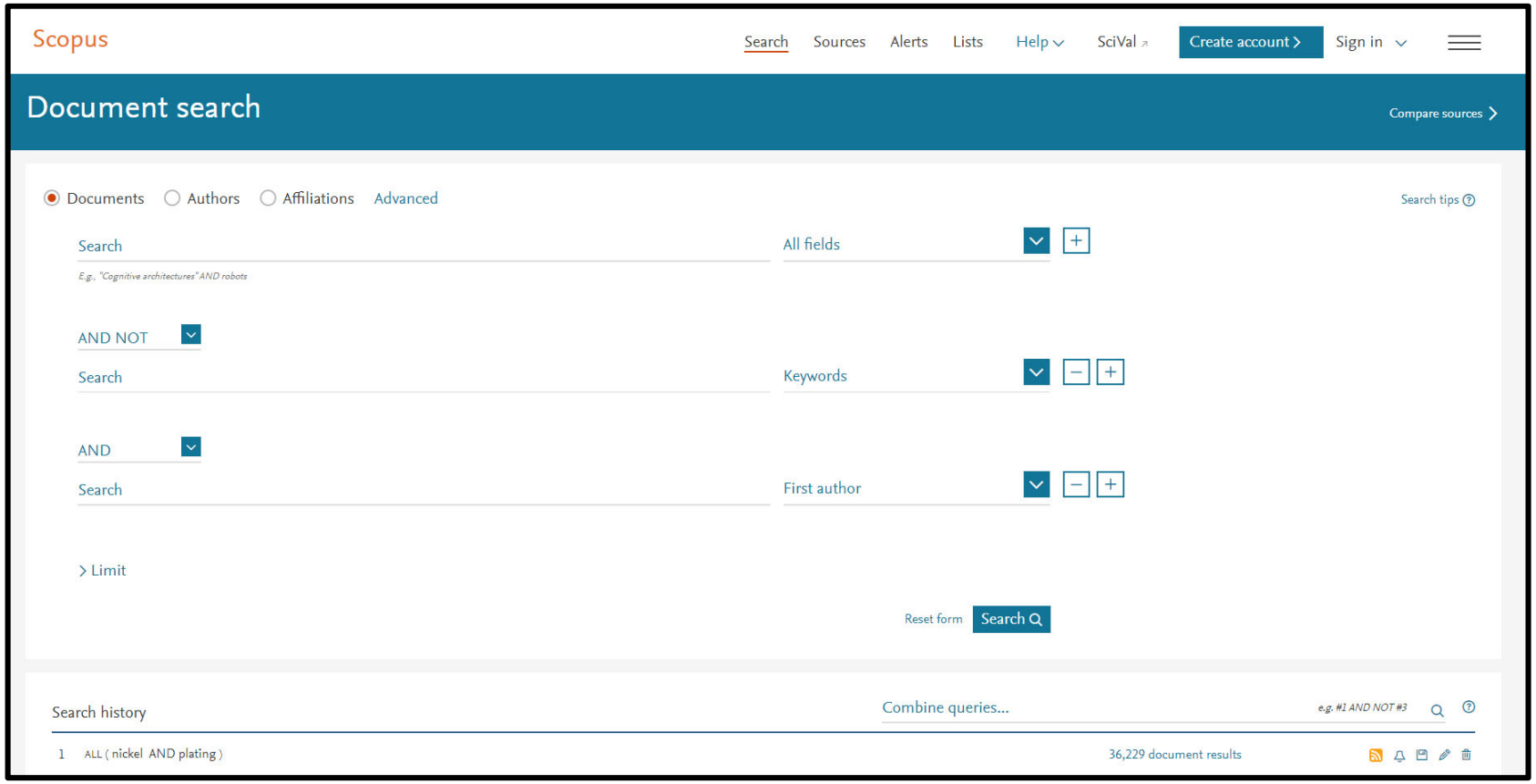
Databases for Journals

www.webofknowledge.com



Databases for Journals

https://www.scopus.com/



DEVELOP SEARCH STRATEGY

AND	Connecting your keywords with AND tells the search tool that all the words must be present.
OR	Connecting your keywords with OR tells the search tool that **any** of the words can be present.
NOT	Using NOT in front of a key word tells the search tool to exclude any page contains that word. Some engines require you to use AND NOT

DEVELOP SEARCH STRATEGY

Define Your Keywords

- It is very important to use targeted keywords.
- Break up the topic you are researching into its main concepts, then define keywords for each concept.
- Next, expand the list by writing down **synonyms and alternative phrasings for each keyword**.
- Also, use terms that you plan to include in your own manuscript; this will indicate how relevant those terms are in the field or whether you should use more precise terms to define your concepts.

Refining your search

- There is no such thing as the perfect search.
- Every database search involves a trade-off between sensitivity (the proportion of all relevant studies in the database that your search retrieved) and specificity (the proportion of all studies retrieved by your search that are relevant).
- The more sensitive your search strategy is, the less likely you are to miss important papers.
- The disadvantage is that you are also more likely to retrieve some irrelevant references as well.

Refining your search

- Balance your need to find all the key papers against the work involved in sifting through large numbers of results

- Take into account how much time you have and the purpose of your literature review. For example there is no point searching for non-English-language journal articles if you can't understand them or have them translated

Refining your search

- Deciding which Database to Search?
- Scopus, web of knowledge, IEEE, ASME, ASCE etc.
- Could you add more search terms to your search strategy?
- You may need to think of **alternative words and spellings**

end of the lecture…