Conducting, Writing & Publishing a Medical Study

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Main presentation sessions

1. Research objectives
2. Conducting literature review
3. Choosing study design(s)
4. Research methods/data collection/statistical analyses
5. Demonstrates results and discussion
6. Ethics of medical research (Helsinki Declaration, Avoid Plagiarism)
7. Referencing/in-text citation (Reference Manager)

8. Publishing a medical manuscript –Avoid Predator journals, writing cover letter, answering reviewer comments, reviewing pre-proof draft.
9. Summary of the presentation

Scientific Research Steps

1	• Research question / Problem	*What are you interested in?* *What do you have to know about* it?
2	• Background / Observation	Make observations & gather background information about the problem
3	• Formulate hypothesis	An *educated guess* … It shall be possible to measure / test it. It should help answer the original question
4	• Design experiment	How will you test your hypothesis? What tests will answer your question?
5	• Test hypothesis / Collect data	Test your hypothesis by executing your experiments. Collect data from them
6	• Interpret / Analyze results	What do your results tell you? Do they prove or disprove the hypothesis. It is OK to be wrong
7	• Publish findings	Write papers for conferences & journals. Write thesis

Section-1

Study Goals/ Objectives

Implications/ Significance of your study

What new knowledge will the proposed project produce that we do not already know?

Why is it worth knowing, what are the major implications?

Are you going to help saving patient lives? Improve their quality of life? Developing new drug formulation?

Title page

Contains short, descriptive title of the proposed thesis project (should be fairly self-explanatory),

and author names, degrees, institution, department, research mentor (for theses)

Corresponding author contact information (for manuscript)

Source: http://ir.uiowa.edu/pharmacy_etd/

Introduction

This section sets the context for your proposed project and must capture the reader's interest.

Explain the background of your study starting from a broad picture narrowing in on your research question

Review what is known about your research topic as far as it is relevant to your thesis

Cite relevant references

The introduction should be at a level that makes it easy to understand for readers with a general science background (researchers in your fields/ healthcare providers).

Section -2

Conducting Literature review

What is a “Literature Review”?

- A literature review is a search and evaluation of the available literature in your given subject or chosen topic area.
- The literature review includes:
- Scientific peer-reviewed articles,
- Conference proceedings,
- Books,
- Medical journals,
- Governmental publications,
- Dissertations and other sources […]

Source: https://www.rlf.org.uk/resources/what-is-a-literature-review/

Advantages of Literature Review

Assessment of the current state of research on a topic.

Identify new ways to interpret and detect any gaps in previous research.

Identify key questions about a topic that need further research.

Determination of methodologies used in past studies of the same or similar topics.

Identify areas of prior research to prevent duplication of effort.

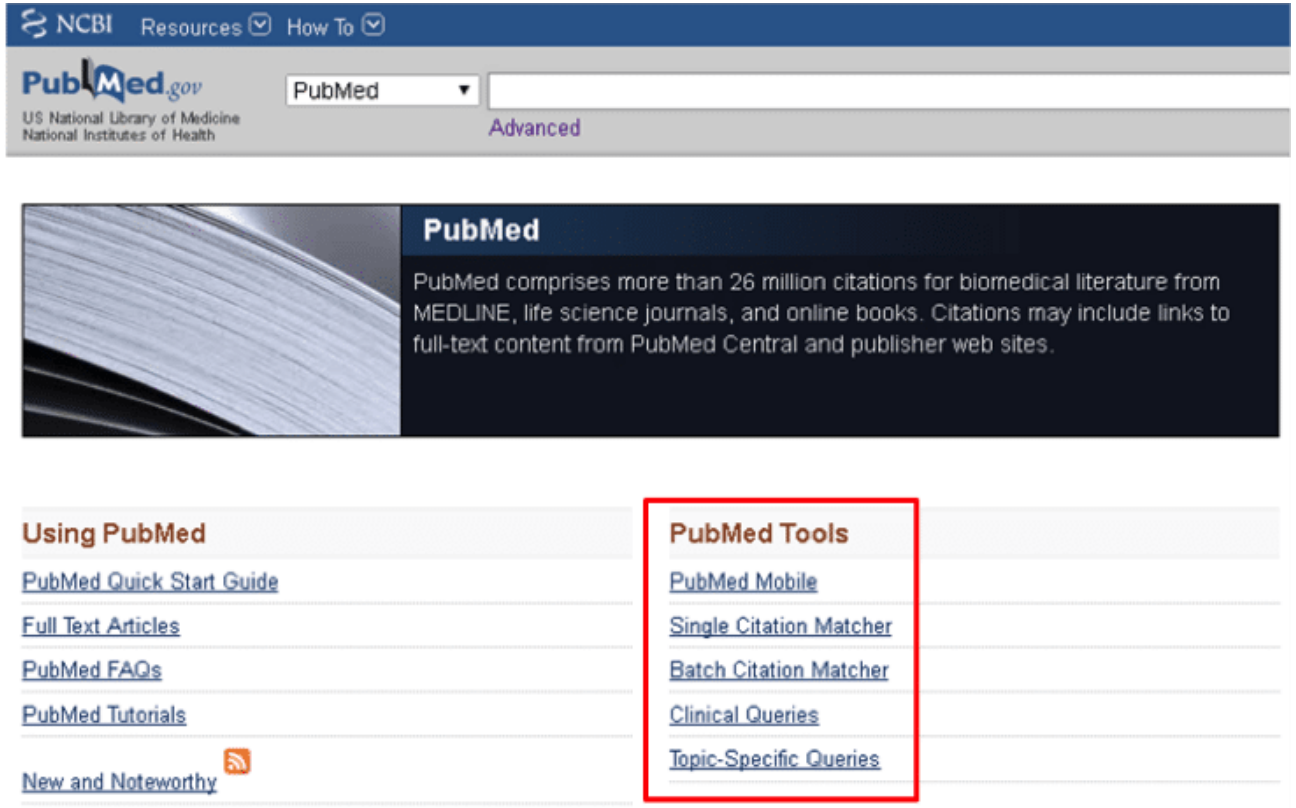
Source: Thomas G Carpenter Library, University of North Florida (https://libguides.unf.edu/c.php?g=177129&p=1163732)

Health Science Search Engines

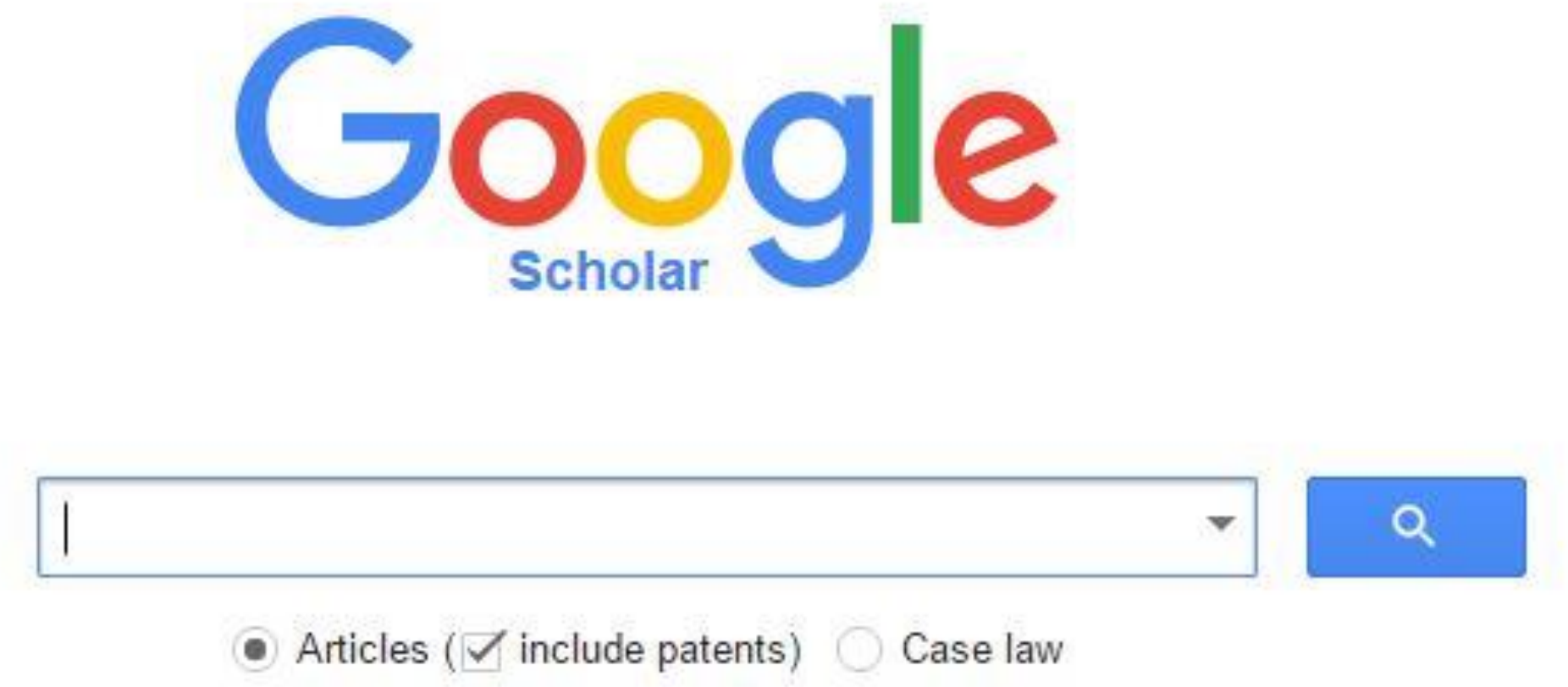
- PubMed
- CINHAL (EBSCOhost)
- Google scholar
- ResearchGate

Conducting a Literature Review

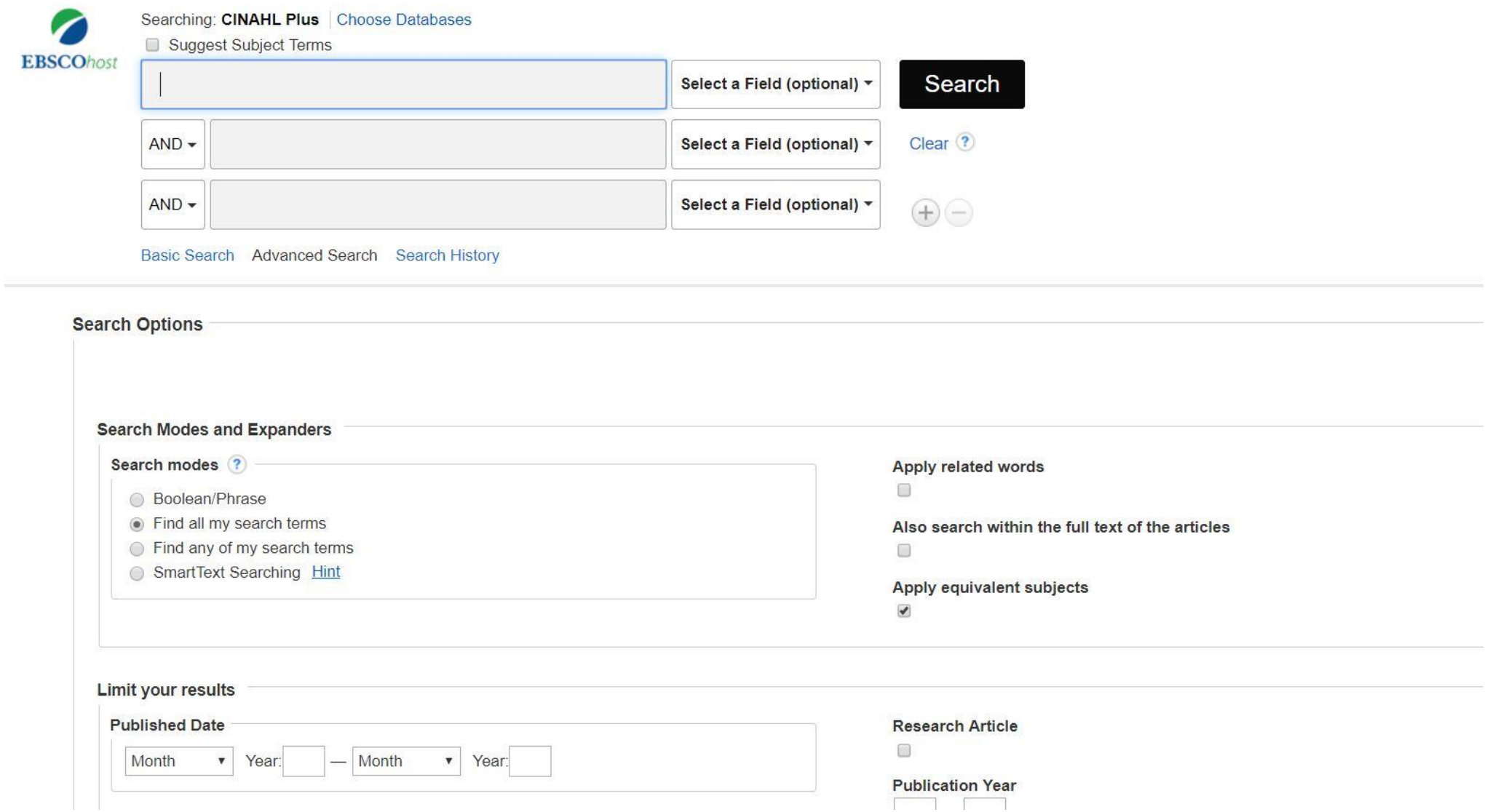
Pubmed (biomedical journals-search engine): We need to find our related topic keywords to conduct the search



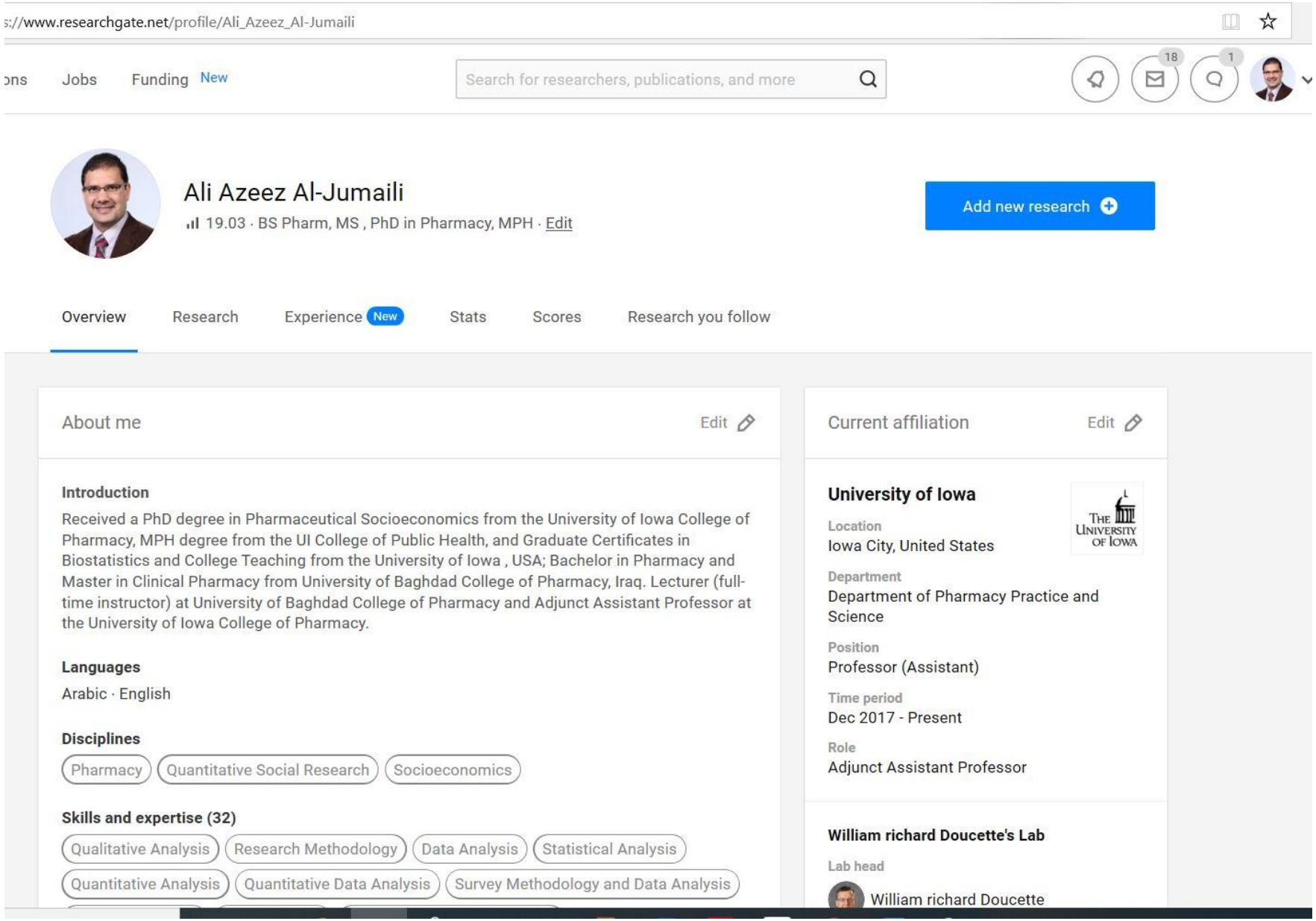
Google Scholar (broad search)

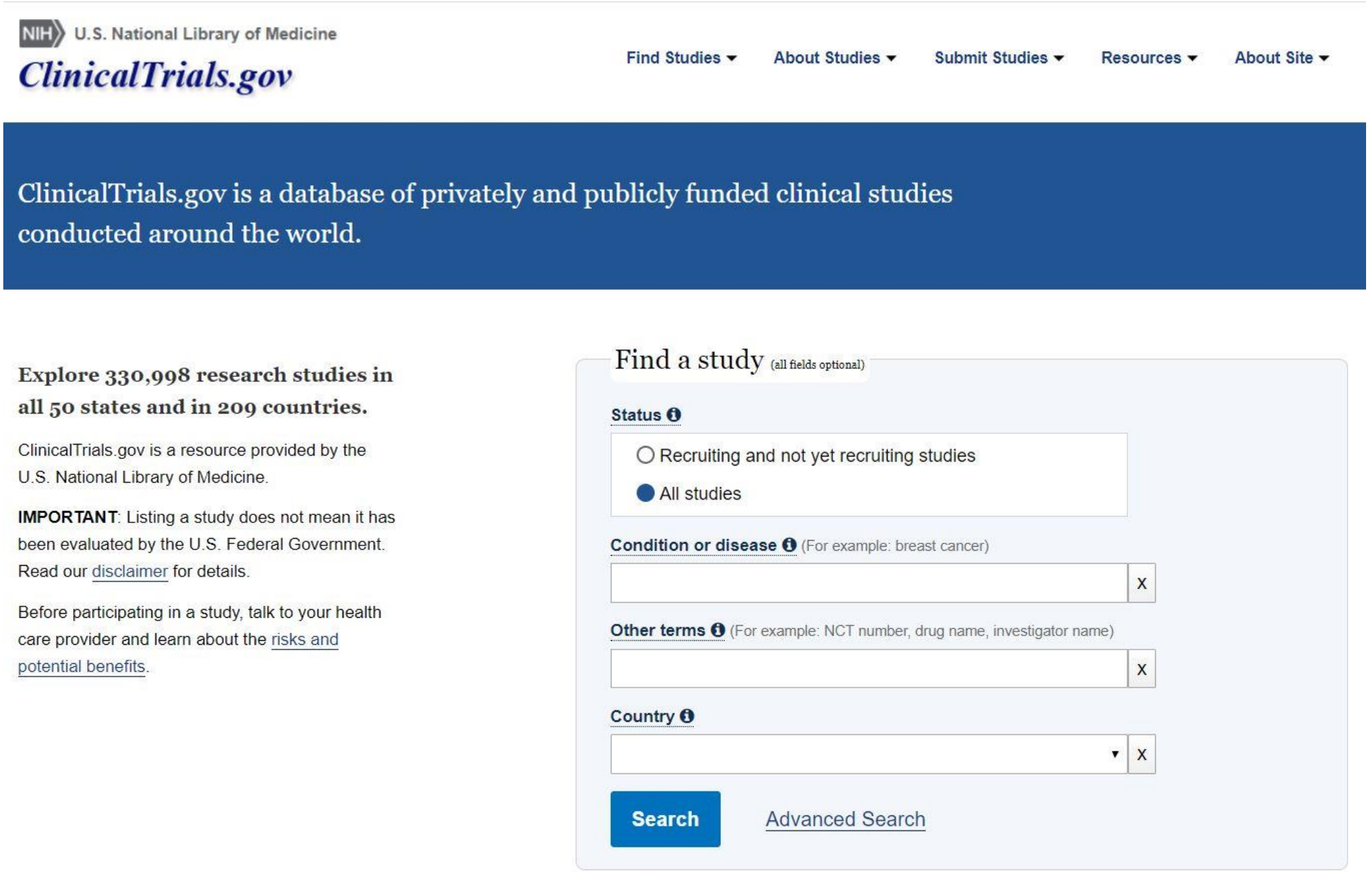


CINHAL (EBSCOhost)



ResearchGate (Free full text articles)





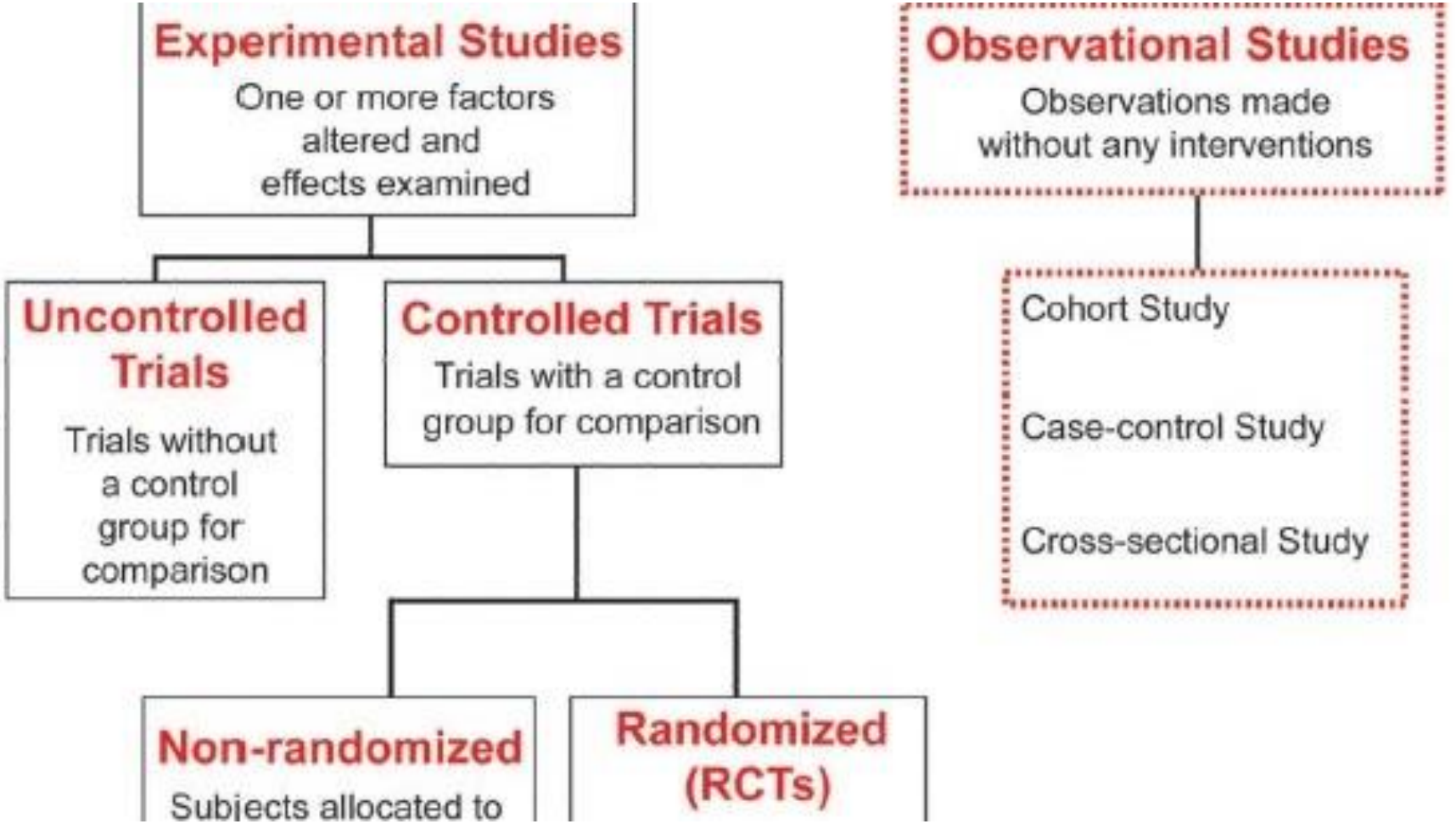
https://clinicaltrials.gov/

Section-3

Choosing Study Design

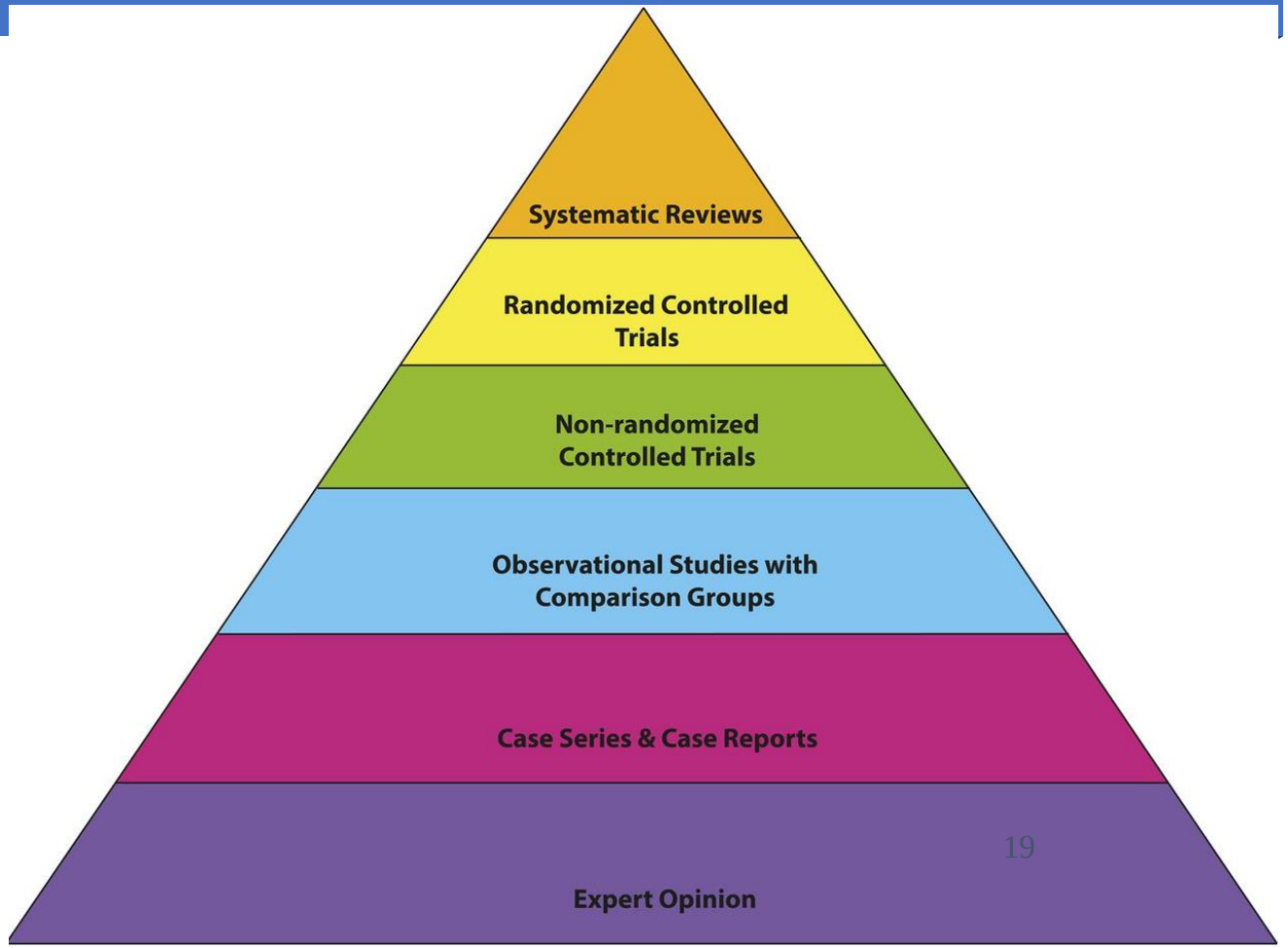
Study Designs

Experimental (Interventional) vs Non-Experimental (Observational)

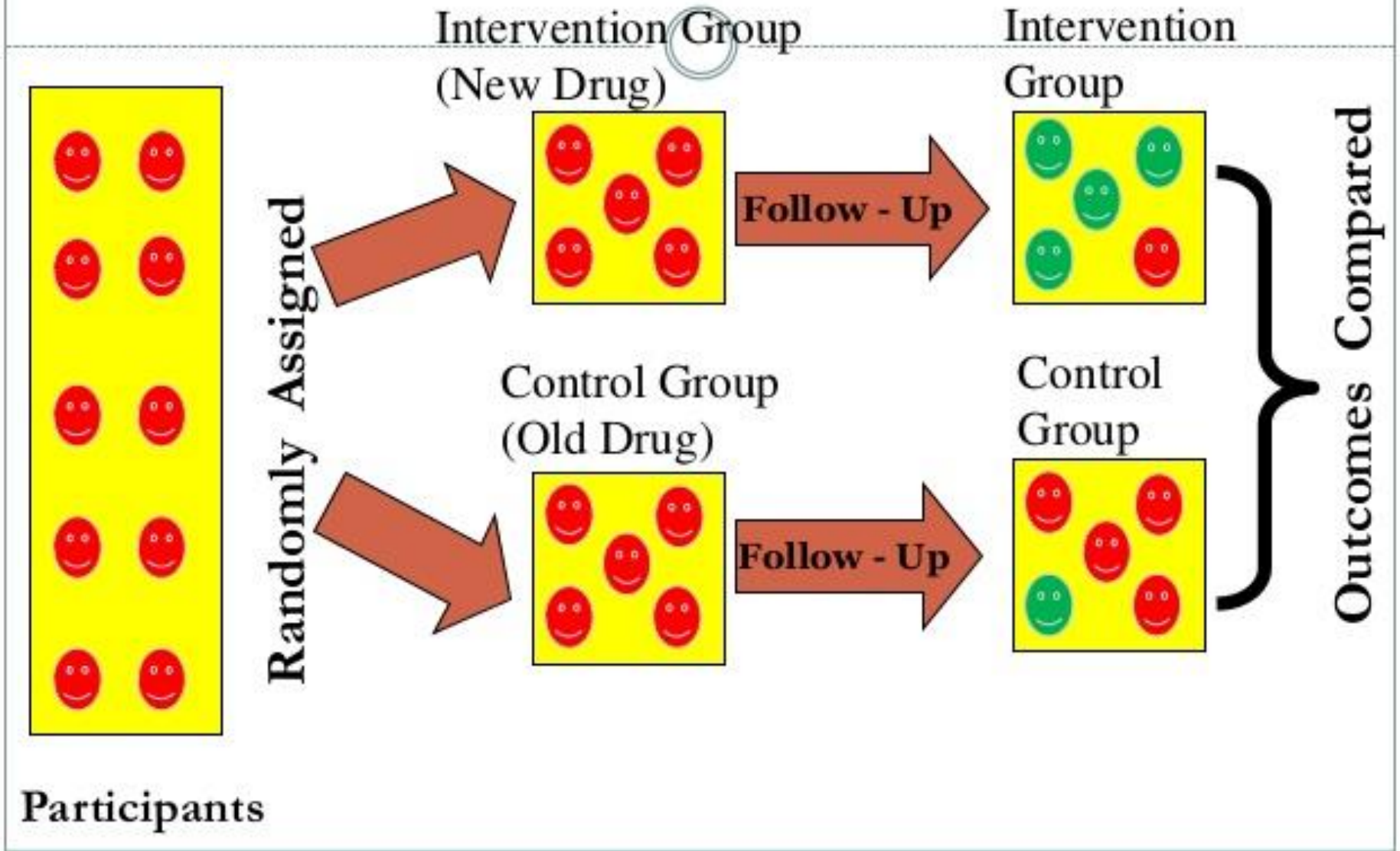


Categorizing Evidence by Quality of Its Source (in descending order of quality)

- Intervention (pre and after intervention) (also called experimental) Studies
- Cohort or Case-control Studies
- Case-series Studies



Randomized Clinical Trials



Section-4

Research Methods

Data collection

Approach/Methods

This section contains an overall description of your approach, materials, and procedures

- What methods will be used?
- How will data be collected and analyzed?
- What materials/participants will be used/recruited?

Include calculations, technique, procedure, equipment, participants and calibration graphs

STROBE CHECK LIST FOR OBSRVATIONA STUDIES

Strobe checklist

	Item No	Recommendation
Title and abstract	1	(*a*) Indicate the study's design with a commonly used term in the title or the abstract
		(*b*) Provide in the abstract an informative and balanced summary of what was done and what was found
Introduction		
Background/rationale	2	Explain the scientific background and rationale for the investigation being reported
Objectives	3	State specific objectives, including any prespecified hypotheses
Methods		
Study design	4	Present key elements of study design early in the paper
Setting	5	Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection
Participants	6	(*a*) *Cohort study*—Give the eligibility criteria, and the sources and methods of selection of participants. Describe methods of follow-up *Case-control study*—Give the eligibility criteria, and the sources and methods of case ascertainment and control selection. Give the rationale for the choice of cases and controls *Cross-sectional study*—Give the eligibility criteria, and the sources and methods of selection of participants

CONSORT 2010 checklist of information to include when reporting a randomised trial*

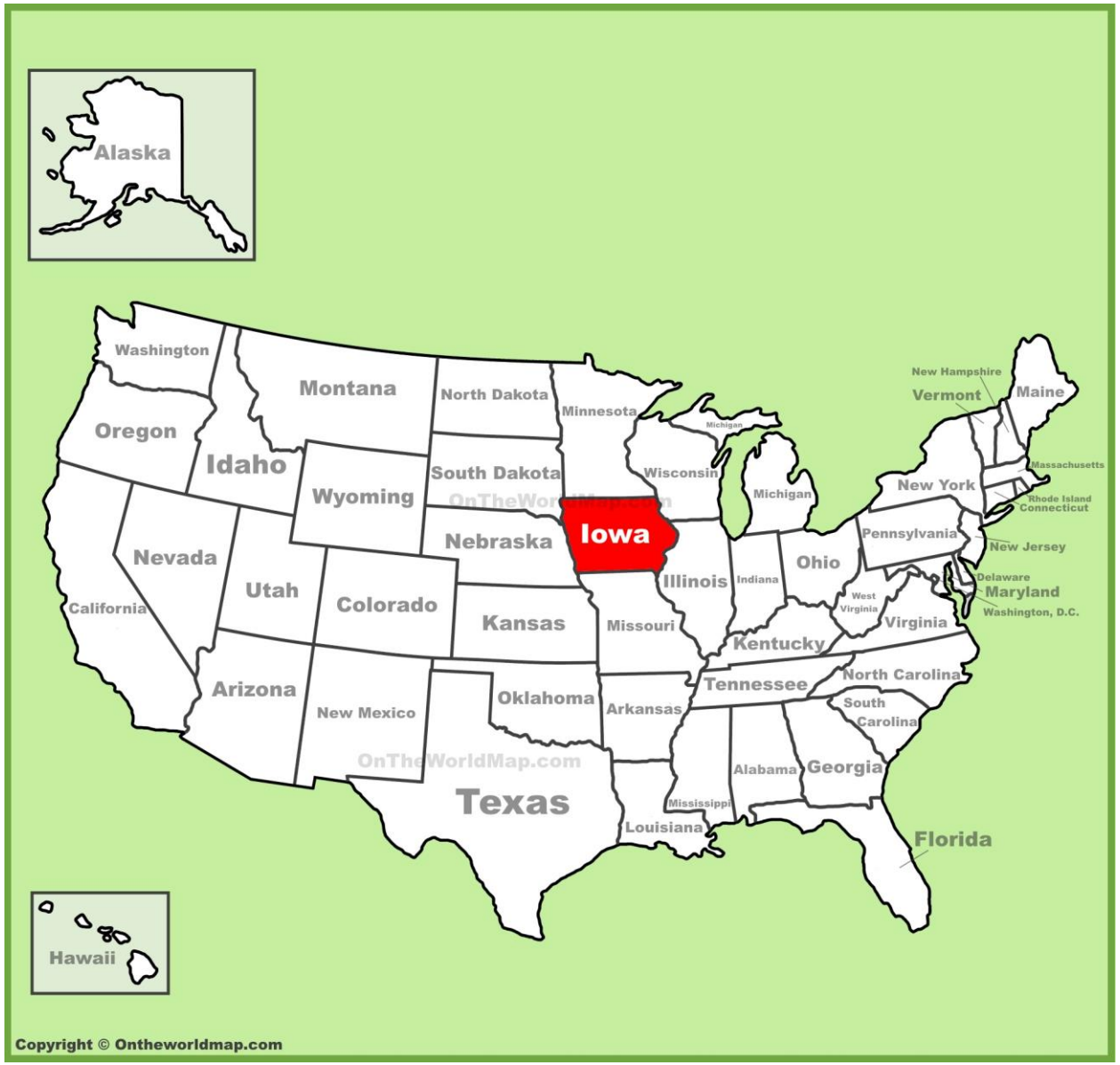
Section/Topic	Item No	Checklist item	Reported on page No
Title and abstract			
	1a	Identification as a randomised trial in the title	
	1b	Structured summary of trial design, methods, results, and conclusions (for specific guidance see CONSORT for abstracts)	
Introduction			
Background and objectives	2a	Scientific background and explanation of rationale	
	2b	Specific objectives or hypotheses	
Methods			
Trial design	3a	Description of trial design (such as parallel, factorial) including allocation ratio	
	3b	Important changes to methods after trial commencement (such as eligibility criteria), with reasons	
Participants	4a	Eligibility criteria for participants	
	4b	Settings and locations where the data were collected	
Interventions	5	The interventions for each group with sufficient details to allow replication, including how and when they were actually administered	
Outcomes	6a	Completely defined pre-specified primary and secondary outcome measures, including how and when they were assessed	
	6b	Any changes to trial outcomes after the trial commenced, with reasons	
Sample size	7a	How sample size was determined	
	7b	When applicable, explanation of any interim analyses and stopping guidelines	
Randomisation:			
Sequence generation	8a	Method used to generate the random allocation sequence	
	8b	Type of randomisation; details of any restriction (such as blocking and block size)	
Allocation concealment mechanism	9	Mechanism used to implement the random allocation sequence (such as sequentially numbered containers), describing any steps taken to conceal the sequence until interventions were assigned	
Implementation	10	Who generated the random allocation sequence, who enrolled participants, and who assigned participants to interventions	
Blinding	11a	If done, who was blinded after assignment to interventions (for example, participants, care providers, those	

Creating a Research Plan

- The research asks you to manage your time and undertake a variety of tasks.

March -May	Write research proposal	Literature review	Complete literature review and conduct pilot study	Main data collection
June-July	Complete data collection	Analyze data	Organize results in tables data	Write manuscript plan, then begin first draft
August-September	Complete first draft	Discuss draft with co-authors/ supervisor	Second draft	Proofing/checking	Final draft

Where I conducted my PhD Research?



Pilot studies

Was it easier or harder than you thought it was going to be?

Did it take longer than you thought it was going to?

Did participants, chemicals, processes behave in the way you expected?

What impact did it have on you as a researcher?

Conducting statistical analyses

- Think about your statistical analysis, main outcome and independent measures/variables/factors before start your data collection.
- Enter your data into excel sheet
- Choose appropriate statistical analysis test (parametric vs non-parametric) relying on your variables (continues, scale, binary, categorical)
- Choosing a wrong test leads to wrong findings
- Train to use a statistical software (e.g. SPSS, Graph Prism)

Section 5

Results, discussion & conclusions

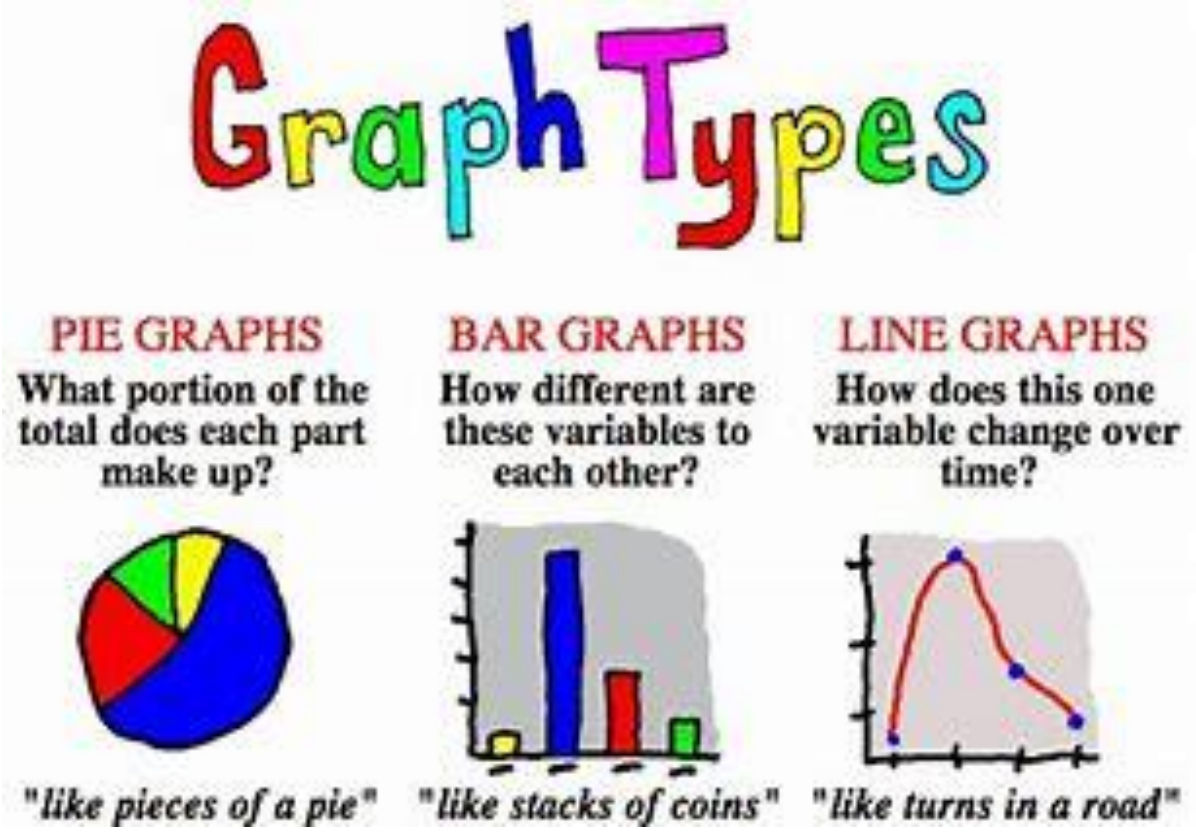
Results

- Present any results you already have obtained.
- Demonstrate your results as text, figures and tables

Medscape® www.medscape.com

Variable	Cases (*n*)	(%)	Controls (*n*)	(%)
Age (years):				
< 40	19	59.4	25	56.8
40–65	13	40.6	19	43.2
Sex:				
male	6	18.8	21	47.7
female	26	81.2	23	52.3
Smoking status:				
current	6	18.8	11	25
former	6	18.8	4	9.1
never	20	62.4	29	65.9
Alcohol status:				
current	2	6.1	1	2.3
former	5	15.6	–	–
never	27	84.3	43	97.7
Histology:				
papillar	26	81.2	–	–
follicular	6	18.8	–	–

Source: Curr Med Res Opin © 2003 Librapharm Limited



Discussion

Discuss how they fit in the framework of your study.

Justify/explain your results

Compare your results with previous study findings

Cite some previous related studies

Conclusions

- Last section of your manuscript
- Summarize your findings (without detailed repetitions)
- Answer your research question
- Give take home message
- You can provide practical recommendations

Abstract

Write abstract after finishing manuscript writing.

The abstract is a brief summary of your research.

Its length should between 200 and 300 words (depend on the journal)

Structured abstract includes: Objectives, methods, results, conclusions

May include a practical implications

Section 6

Medical Study Ethics

Basic ethical principles that must be followed in medical research

The Belmont Report identified basic ethical principles that should be followed

- Respect for persons (autonomy) (participation should voluntary)
- Beneficence
- Avoid patient harm
- Justice
- Privacy and confidentiality
- Honest reporting of research results (veracity)
- Avoid plagiarism in writing

History of Declaration of Helsinki

Nexus Oncology

- Adopted in June 1964
- Has undergone 6 revisions
- 2 clarifications
- First significant effort by medical community to regulate research
- Prior to Nuremberg Code only specific countries had national policies (Germany for example)
- Forms basis of most subsequent documents

Ethics

Gift/ghost authorship

Gift authorship

Making someone an author when they do not deserve it (friends, colleagues, etc.)

- Try to make paper more prestigious by adding a 'big name'
- Adding the department head to every paper from their department
- Thanking someone for a contributed material

Ghost authorship

Not making someone an author when they *do* deserve it

- Hide conflict of interest (e.g., company employee)
- If someone did not conduct the study, but wrote the paper (e.g., 'ghost writer')

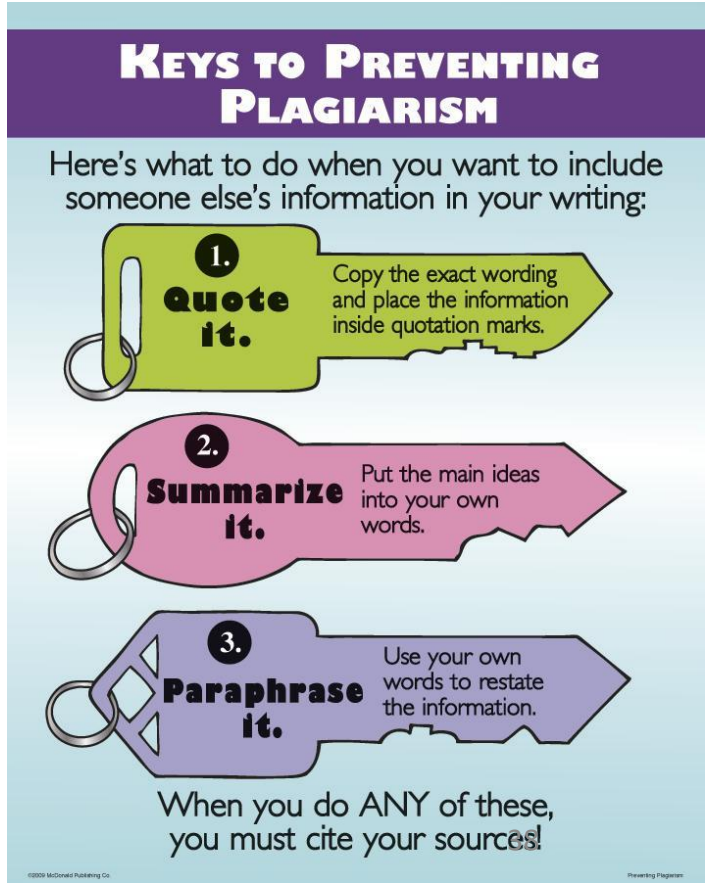
Inappropriate academic behaviors

How to avoid plagiarism?

- If we need to quote an author, we need to rely on and cite the original paper.
- In the introduction section, authors borrow data from other research papers.

- Paraphrasing is a restatement of the author's original thought and meaning.

- Summarization is the condensing of a passage or thought into a much smaller package.



Picture source: http://uj.ac.za.libguides.com/c.php?g=581225&p=4012227

owl.purdue.edu/owl/teacher_and_tutor_resources/writing_instructors/non_purdue_users.html

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Teacher And Tutor Resources / Writing Instructors

Purdue OWL

General Writing ▸

Non-Purdue College Level Instructors and Students

For access to all OWL resources, **click here**. Please click on the links below to access resources for non-Purdue college level instructors and students:

Process

Starting the Writing Process - This resource contains tips for instructors and student on beginning writing.

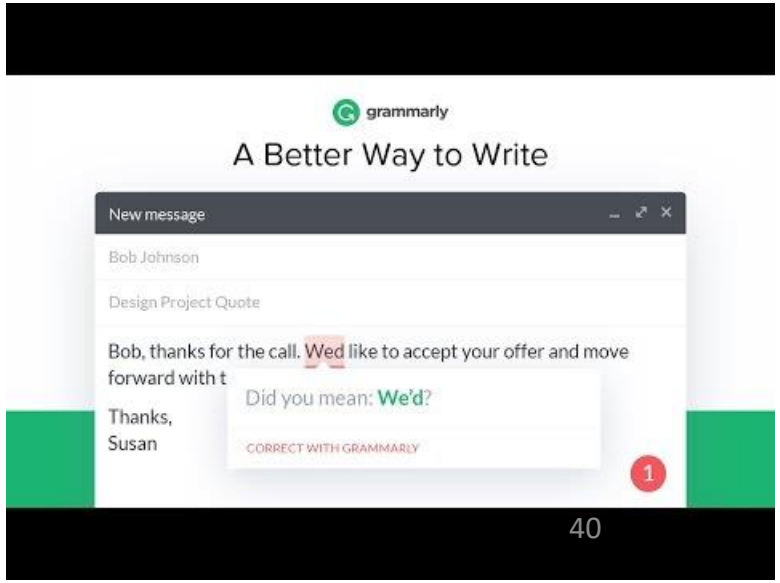
Prewriting - This section explains the prewriting (invention) stage of the composing process. It includes processes, strategies, and questions to help you begin to write.

Writer's Block / Writer's Anxiety - This resource contains help for overcoming writer's block and a

https://owl.purdue.edu/owl/teacher_and_tutor_resources/writing_instructors/non_purdue_users.html

Writing Tips

- Poor grammar and spelling distract from the content of the manuscript.
- The reader focuses on the grammar and spelling problems and misses keys points made in the text.
- Modern word processing programs have grammar and spell checkers. Use them.
- Example: Grammarly
- https://www.youtube.com/watch?v=0Tp6J8yaTmo



Section 7

In-text citation/ bibliography (References)

In-text citation

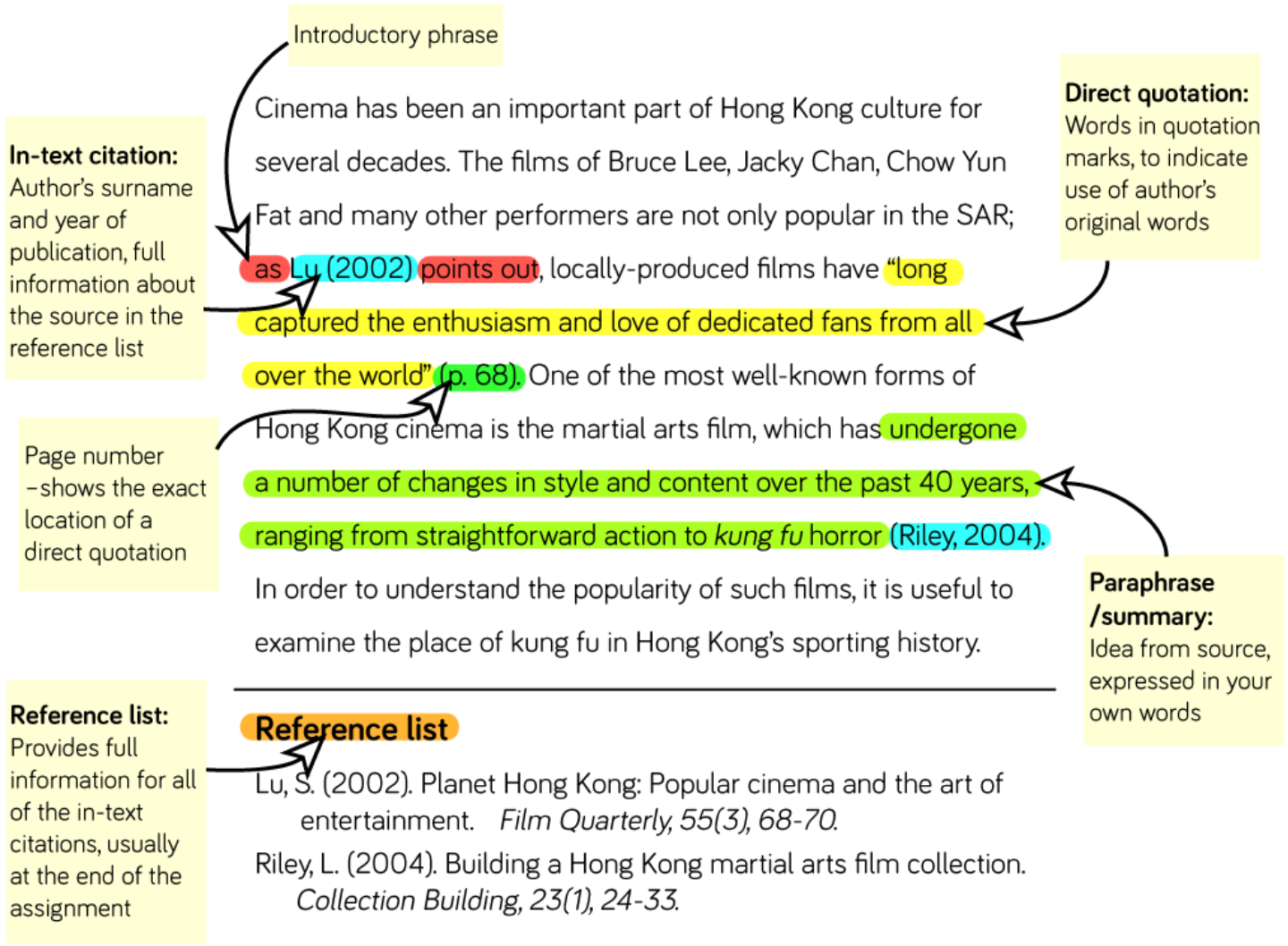
performance on tasks utilizing low-dimensional stimuli as these rely on more online support from language.

An earlier study (Lupyan, 2009), using verbal interference in normal populations, yielded very similar patterns of selective effects. Verbal interference disrupted categorization that was based on the ability to isolate perceptual dimensions readily amenable to verbalization, such as color, but not categorization that required knowledge of thematic relationships between objects (e.g., *potato* is the odd one out in the triad *potato*, *balloon*, and *cake* because the latter two are linked by th

In-text citation

The findings reviewed above, taken in conjunction with the current results, suggest more generally that when participants are used to relying on prior linguistic knowledge to make classification decisions, such as encoding features of stimuli like colors and, in this case, the aspectual proper-

Types of citations



Citations of different sources

ARTICLE IN A JOURNAL **journal titles often abbreviated*	*Author(s)* — *Article Title* — *Volume/Issue* — *Page no.(s)* Weaire, D. 2013. A fresh start for foam physics. *Science.* 340(6133). 693-694. *Date* — *Journal title**
BOOK	*Author(s)* — *Book Title* — *Publisher Info* Van Emden, R. 2012. *Boys Soldiers of the Great War.* Bloomsbury Publishing, London. *Date*
CHAPTER or ARTICLE IN A BOOK *hint:* *look for the word*	*Author(s)* — *Date* — *Article/Chapter Title* — *Book Title* Buskirk, J. W. & Uetz, G.W. 1982. Sociality in the Arachnida. In: *Social Insects* (H. R. Hermann, ed), pp. 281-367. Academic Press, London. *Book author(s)* — *Page no.(s)* — *Publisher Info*

Popular Citation Styles

And Who Uses Them!

MLA

English
Literature
Foreign Language
Communications
Religious Studies

APA

Psychology
Education
Business/Economics
Nursing
Linguistic Studies

Chicago

History
Art History
Fine Arts
Anthropology
Philosophy

IEEE

Engineering
Computer Science
Information Science

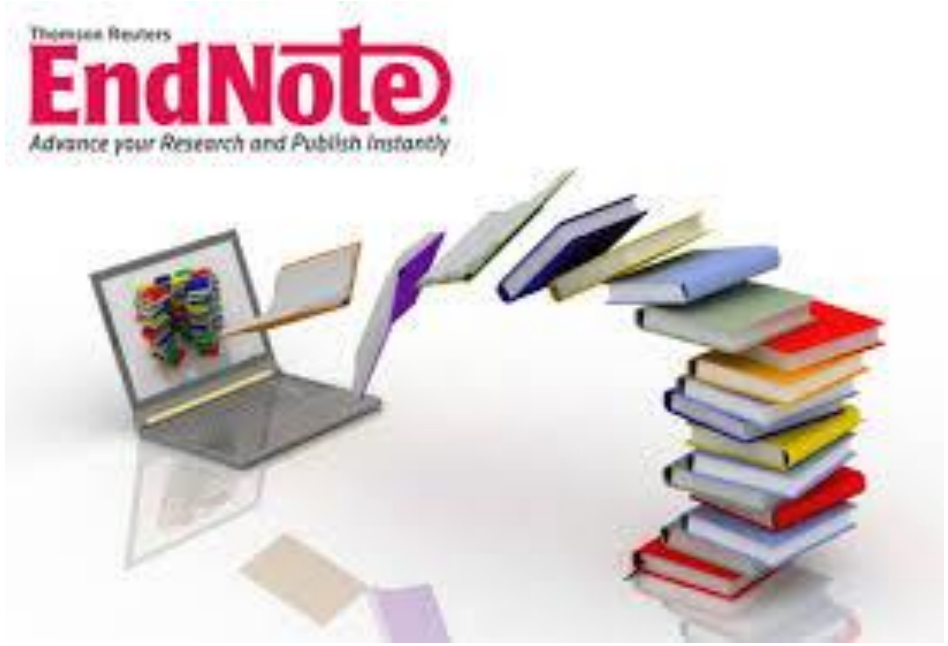
CSE

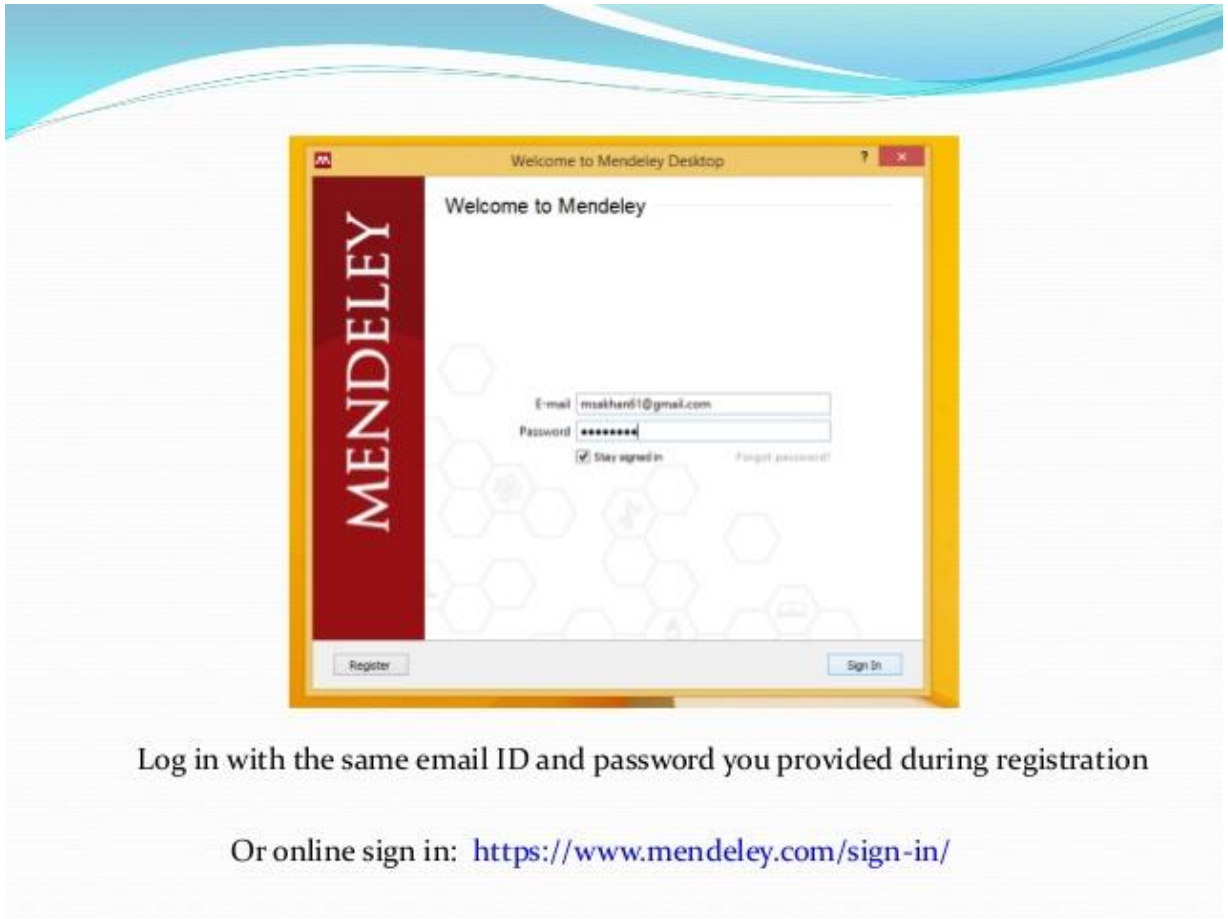
Biology
Physics
Chemistry
Geology

Always check with your instructor about what style to use!

Reference Management Software

EndNote is the industry standard software tool for publishing and managing bibliographies, citations and references on the Windows and Macintosh desktop.
https://www.youtube.com/watch?v=S3xo6ZjBV6U

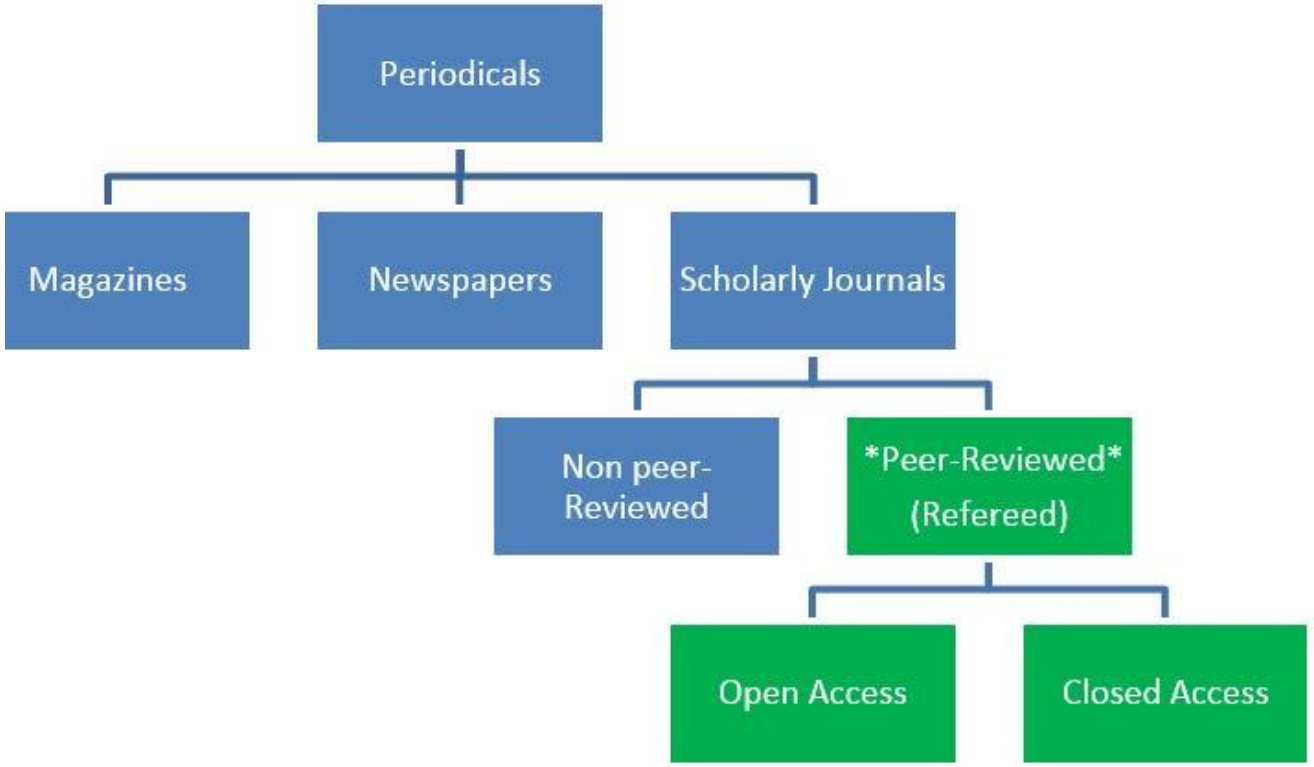




Section 7

Publishing a medical manuscript

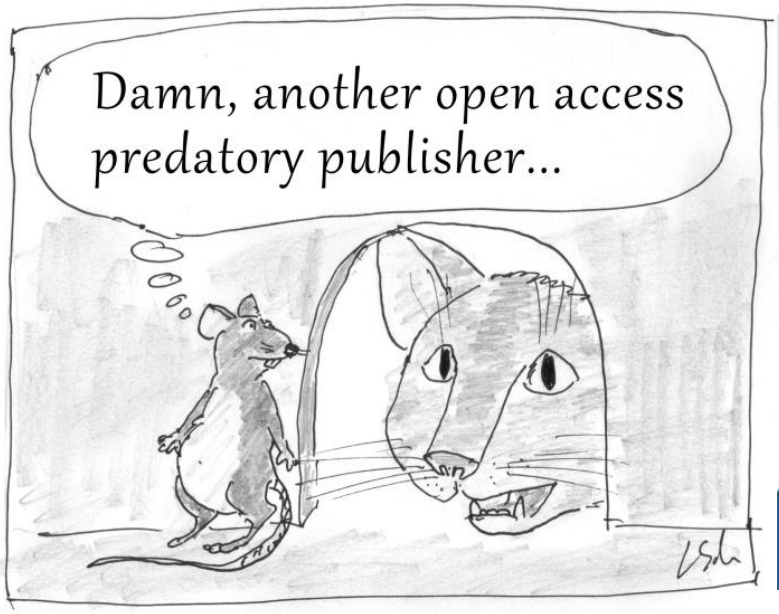
Types of publications



- **Avoid predatory Journals**

Why are they called predatory journals?

- **“Pay fees and Publish anything You want”**
- Basically because they predate researchers and publish low-quality manuscripts quickly just to make financial profit.
- Entities that prioritize self-interest at the expense of scholarship



Suspected Journal Adds

IF YOUR RESEARCH WORK WAS COMPLETED AND WANT TO PUBLISH YOUR RESEARCH ARTICLE IN A TRUSTED JOURNAL, THEN

DON'T WORRY !!! WE CARE FOR YOUR PAPER

SHARE YOUR SUCCESS STORY TO THE WORLD COMMUNITY BY THE HELP OF THIS INTERNATIONAL JOURNAL AND GET A HIGH IMPACT VALUE OF YOUR PAPER

GOOD NEWS FOR AUTHORS

Submit Two articles in single article price

USE PROMO CODE : 2IN1 ON SUBJECT LINE OF YOUR EMAIL

ENJOY UPTO

50%OFF

ON PUBLICATION CHARGE (ONLINE ONLY)

Risk of Predatory Journals?

- Predatory journals are a global threat.
- They accept articles for publication —

 along with authors' fees (Range $100-900) —
- without performing promised quality checks for issues such as
- Plagiarism or
- Ethical approval.
- Rare to be cited

List of Predatory Journals

Stop Predatory Journals

About Contribute Hijacked Journals Me

List of Predatory Journals

This is a list of possibly predatory journals. The kernel for this list was extracted from tl
Beall's list at web.archive.org. It will be updated as new information or suggested edits
found by the maintainers of this site.

This list is only for individual journals. See the other list for publishers potentially engag
practices.

A B C D E F G H I J K L M N O P Q R S T U V W

A

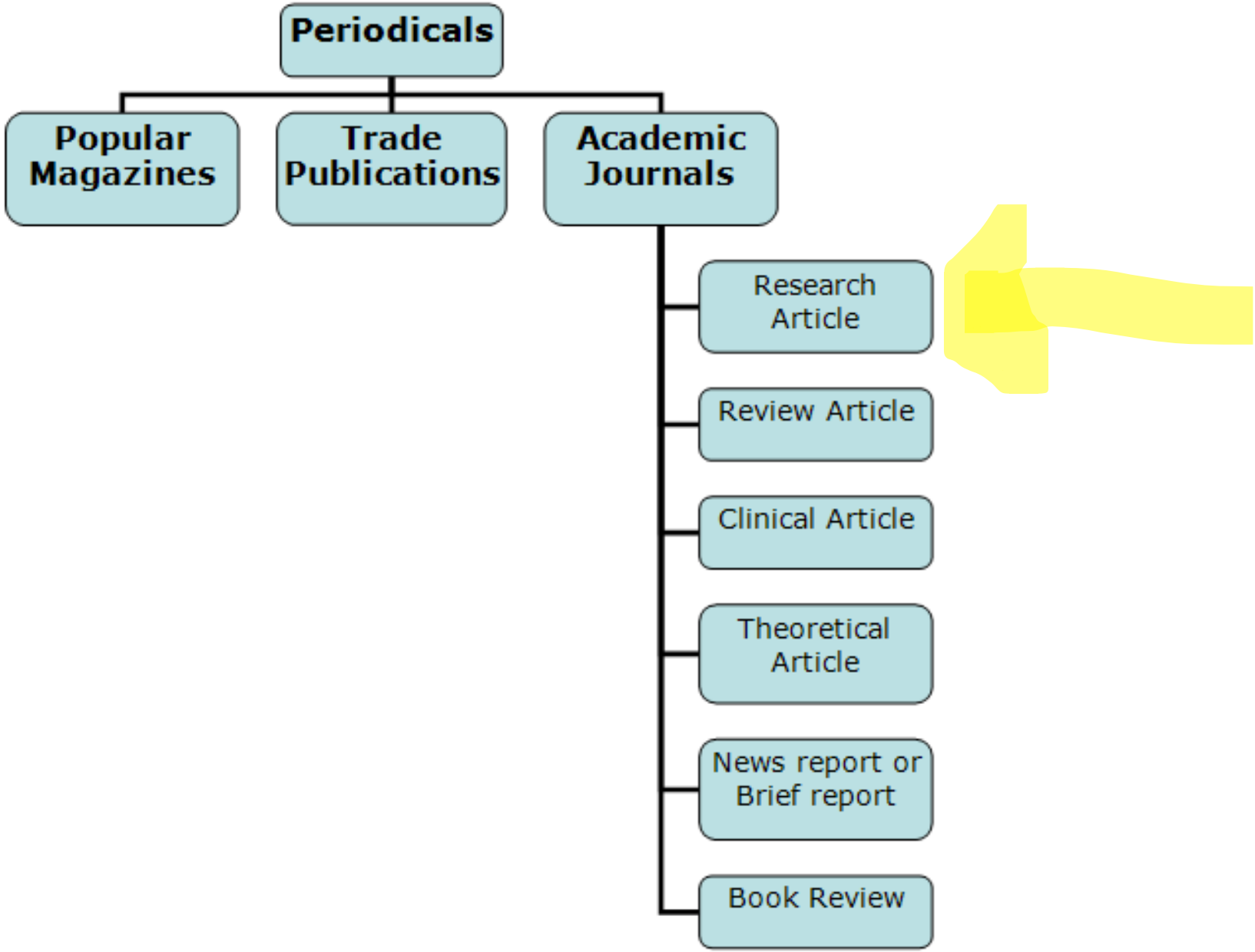
- Academic Exchange Quarterly
- Academic Research Reviews
- Academy of Contemporary Research Journal (AOCRJ)

- International Journal of Advancements in Research & Technology (IJOART)
- International Journal of Advances in Applied Mathematics and Mechanics (IJAAMM)
- International Journal of Advances in Engineering (IJAE)
- International Journal of Advances in Engineering & Technology (IJAET)
- International Journal of Advances in Interdisciplinary Research (IJAIDR)
- International Journal of Advances in Management and Economics (IJAME)
- International Journal of Advances in Management, Economics and Entrepreneurship (IJAMEE)
- International Journal of Advances in Mathematics
- International Journal of Advances in Pharmaceutical Research
- International Journal of Advances in Power Systems (IJAPS)
- International Journal of Advances in Social Science and Humanities (IJASSH)
- International Journal of Advent Research in Computer and Electronics (IJARCE)
- International Journal of Aerospace and Medical Engineering
- International Journal of Agriculture and Crop Sciences (IJACS)
- International Journal of Agriculture and Environmental Research (IJAER)
- International Journal of Agriculture Innovations and Research (IJAIR)
- International Journal of Agricultural, Forestry & Plantation (IJAFP)
- International Journal of Agricultural Sciences and Veterinary Medicine (IJASVM)
- International Journal of Agronomy & Plant Production
- International Journal of All Research Education & Scientific Methods (IJARESM)
- International Journal of Application or Innovation in Engineering & Management (IJAIEM)
- International Journal of Applied and Pure Science and Agriculture (IJAPSA)

List of Predatory Journals

- Asian Pacific Journal of Natural Products (APJNP)
- Asian Pacific Journal of Pharmacy and Phytochemistry (APJPP)
- Asia-Pacific Journal of Research
- Asian Journal of Applied Science and Engineering
- Asian Journal of Biomedical and Pharmaceutical Sciences
- Asian Journal of Chemistry
- Asian Journal of Health and Medical Sciences
- Asian Journal of Humanities and Social Sciences
- Asian Journal of Business and Management Sciences (AJBMS)
- Asian Journal of Mathematics and Applications
- Asian Journal of Multidisciplinary Studies
- Asian Journal of Pharmaceutical and Health Sciences
- Asian Journal of Pharmacy and Life Science
- Asian Journal of Pharmaceutical Research and Health Care (AJPRHC)
- Asian Journal of Science and Technology (Science and Technology Asian Journal)
- Asian Pacific Journal of Health Sciences (APJHS)
- Asian Pacific Journal of Tropical Disease
- Asian Research Journal of Business Management (ARJBM)
- Australasian Journal of Herpetology
- Australasian Medical Journal (AMJ)
- Australian Journal of Basic and Applied Sciences
- Australian Journal of Business and Management Research (AJBMR)
- Indian Journal of Advances in Chemical Science (IJACS)
- Indian Journal of Applied-Basic Medical Sciences
- Indian Journal of Applied Research
- Indian Journal of Drugs
- Indian Journal of Medical Research and Pharmaceutical Sciences (IJMRPS)
- Indian Journal of Natural Sciences (IJONS)
- Indian Journal of Pharmaceutical and Biological Research (IJPBR)
- Indian Journal of Pharmaceutical Science & Research (IJPSR)
- Indian Journal of Research Anvikshiki
- Indian Journal of Research in Pharmacy and Biotechnology (IJRPB)
- Indian Journal of Scientific Research (IJSR)
- Indian Journal of Scientific Research and Technology (INDJSRT)
- Indian Research Journal of Pharmacy and Science
- Indian Scholar
- Indian Streams Research Journal
- Indo American Journal of Pharmaceutical Research
- Indo American Journal of Pharmaceutical Sciences (IAJPS)
- Indo-Global Journal of Pharmaceutical Sciences
- Industrial Science Journal
- INFORMATION An International Interdisciplinary Journal
- Innovations in Pharmaceuticals and Pharmacotherapy (IPP)
- Institute of Electrical & Electronics Engineers Advanced Journal (IEEEAJ)

Types of publications



Steps of publishing a manuscript

1. Search for an appropriate journal (not a predatory) and your field (in the study scope).

2. Prepare your manuscript by following journal author instructions and style), write a specific/customize cover letter, and suggest reviewers.

3. Prepare Ethical Approval letter

4. Writing cover letter & find suggested reviewers

Steps of publishing a manuscript

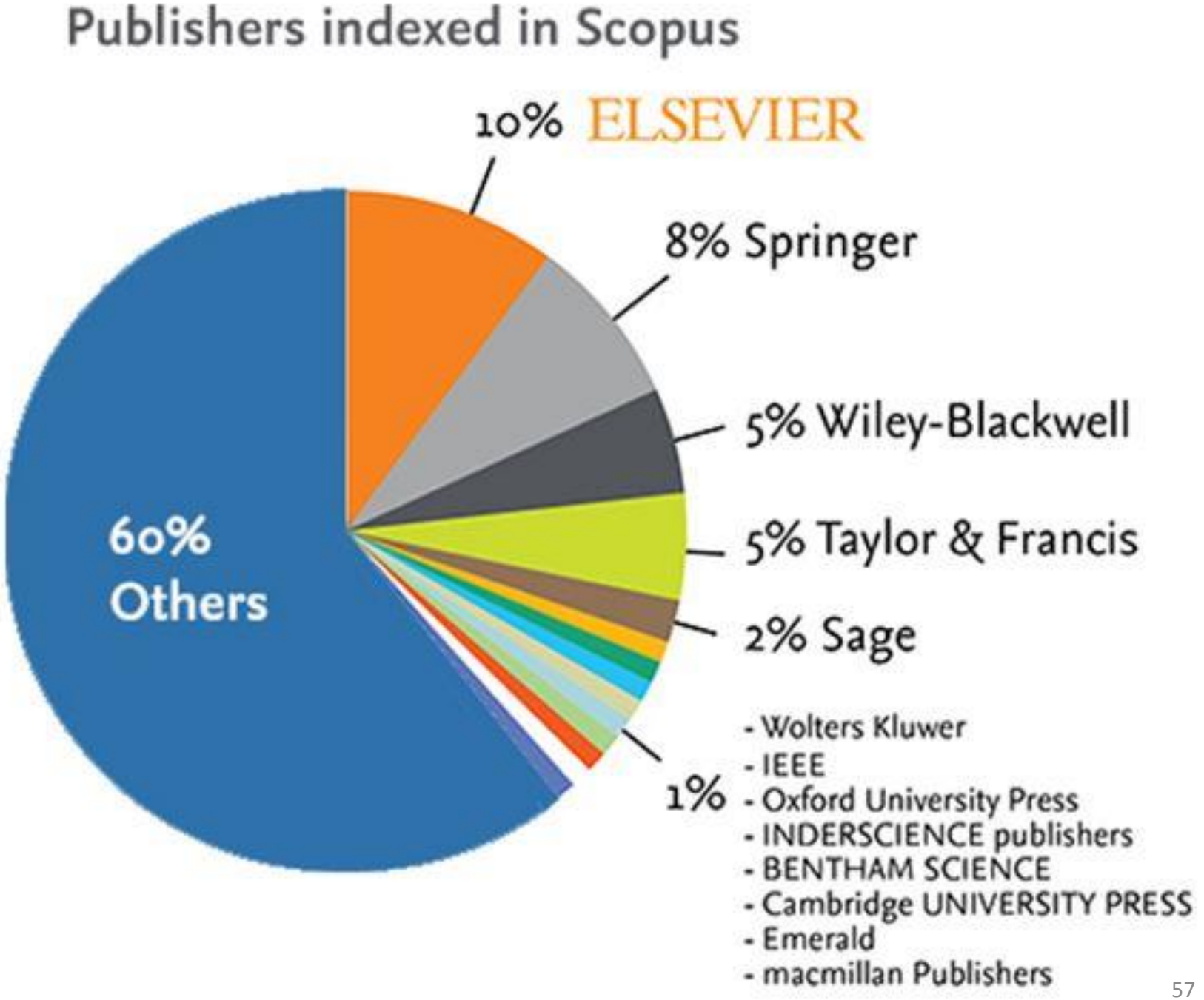
5. Submit the manuscript to the journal and follow-up with the journal about the status of your manuscript

6. Do reviewer revisions as required/requested then resubmit it to the journal.

7. You may need to resubmit your manuscript to another journal when it is rejected by the first journal.

8. Your manuscript gets published --------
Disseminate your study article

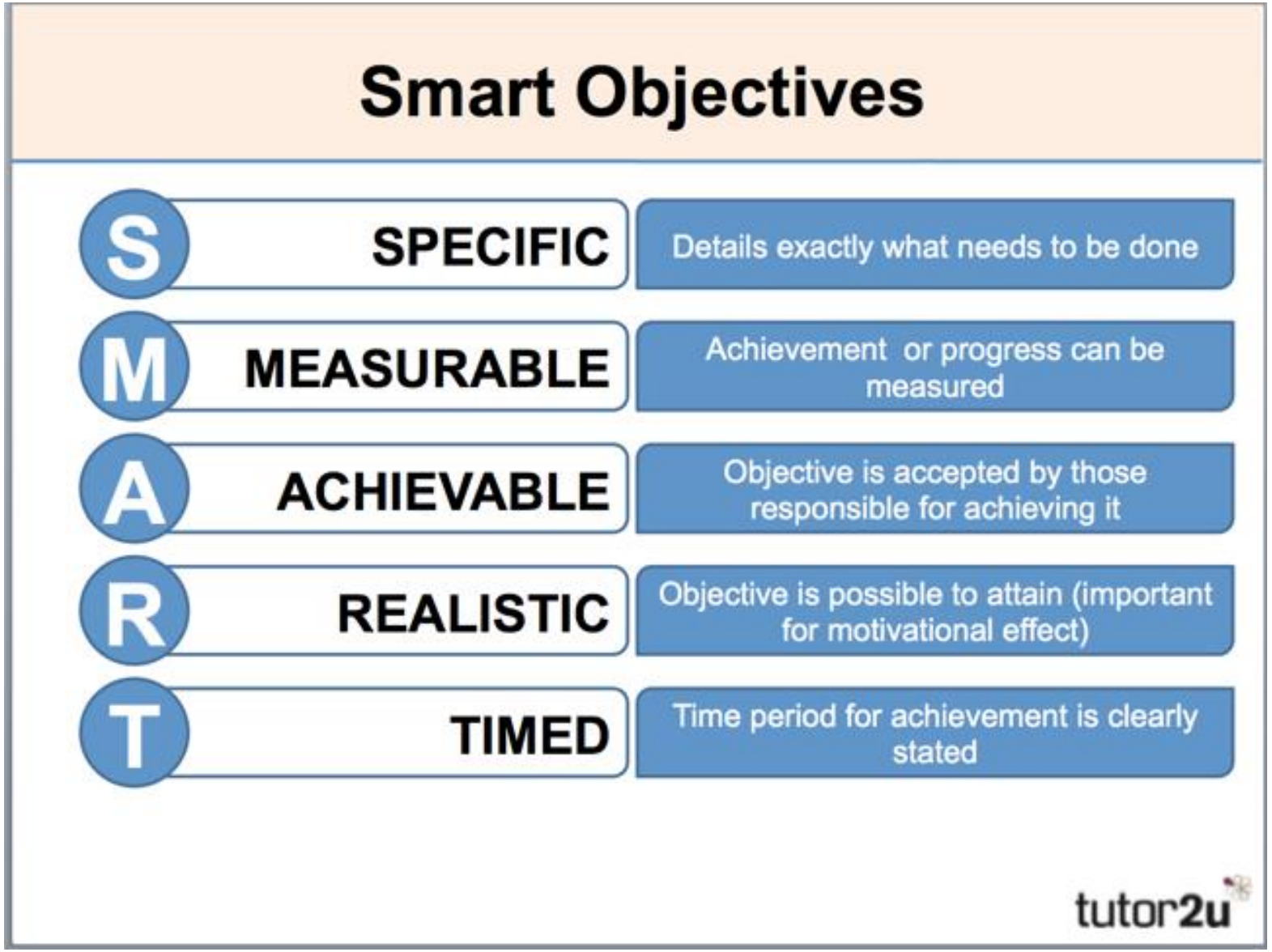
Well known publishers



Last section

Summary of the presentation

Summary of the Research Process


Smart Objectives
S
SPECIFIC
Details exactly what needs to be done
M
MEASURABLE
Achievement or progress can be measured
A
ACHIEVABLE
Objective is accepted by those responsible for achieving it
R
REALISTIC
Objective is possible to attain (important for motivational effect)
T
TIMED
Time period for achievement is clearly stated
tutor2u

The components of a manuscript

- Title, (with author names, affiliations and contact information)
- Introduction
- Objectives
- Methods (Design, Setting, Participants, Recruitments, instruments, materials, Dates, Statistical analyses).
- Consort list for RCTs and STROBE check list for observational studies.
- Results (Text/Tables/Figures)

The components of a manuscript

- Discussions (Discuss your results & compare with previous studies),
- Limitations,
- Conclusions,
- Recommendations,
- References (Mendeley , Endnote reference manager),
- Appendices.
- Acknowledgments

References

- https://www2.le.ac.uk/offices/ld/resources/writing/writing-resources/planning-dissertation
- The University of Leicester Library Catalogue;
- http://ir.uiowa.edu/pharmacy_etd/
- https://owl.english.purdue.edu/owl/resource/588/01/

Audience questions??