



University of Pittsburgh

INFSCI 3005: Introduction to Doctoral Program

Lecture 6: Reference and Search Tools

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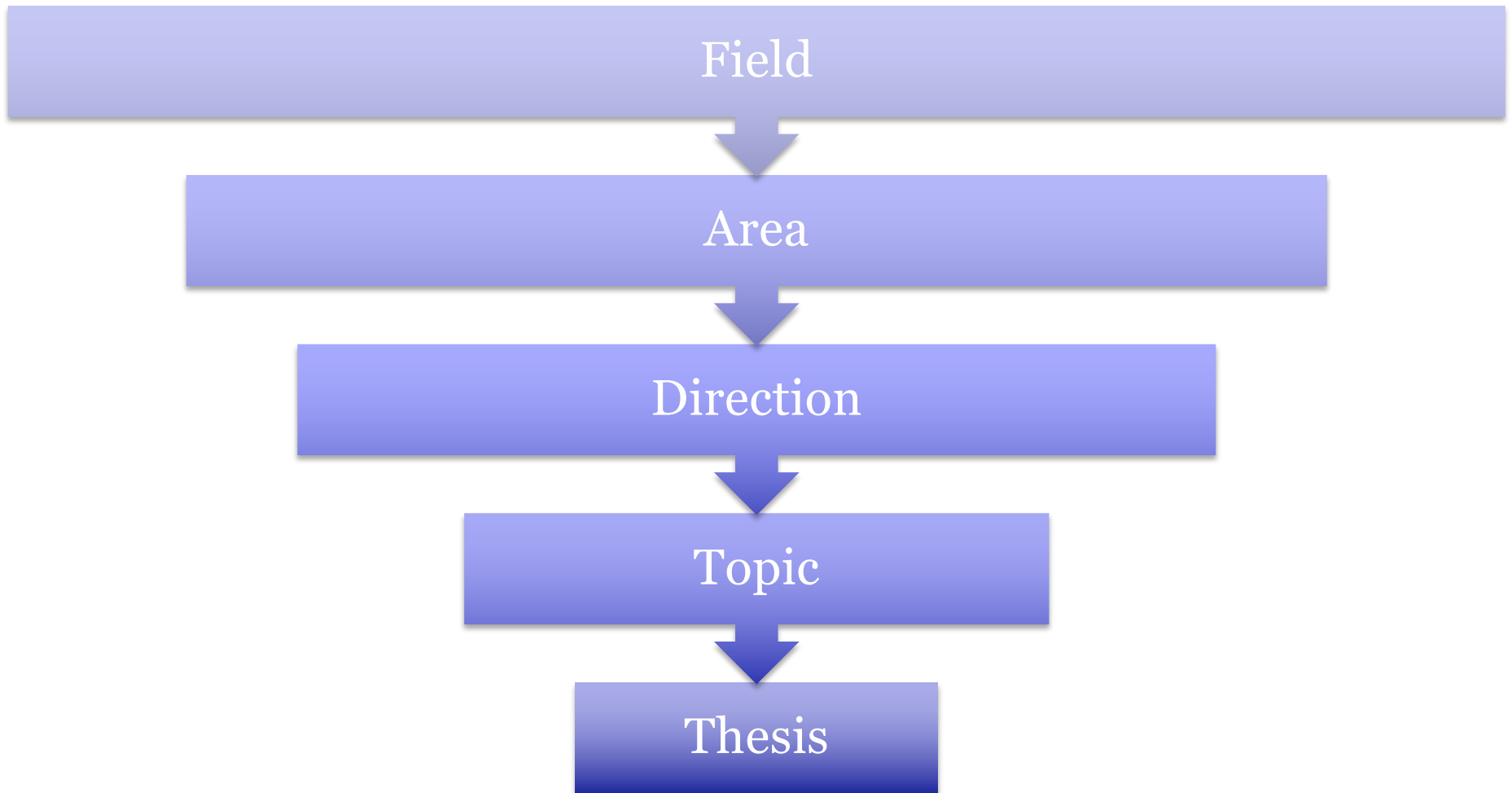


Working with research literature: When?

- To start exploring the field
- To look for research ideas and things to do
- To find similar works for a project or a paper
- To prepare review part of your thesis
- To choose next research goals



Stages of the Doctoral Study



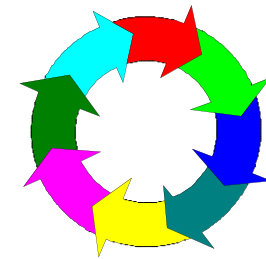
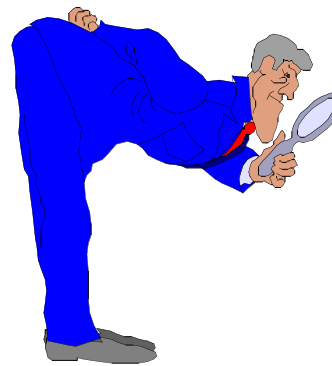
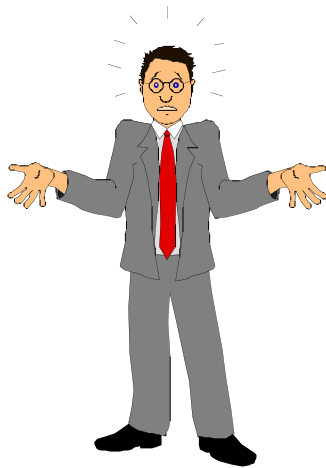


Working with research literature: Needs

Find

Organize and assess

Use





Working with research literature: Needs

- Find introductory books, textbooks
- Find research papers on a specific subject
- Find papers of a specific author or team
- Evaluate an impact of authors / research papers
- Organize your [pdf] paper collection
- Organize your collection of references
- Manage citations when writing a paper (thesis)
- Share references with co-authors and groups



Working with research literature: Tools

- Libraries
- Digital libraries and Publisher's portals
- Search tools
- Social Research Portals
- Citation bookmarking and sharing systems
- Citation and impact services
- Citation management tools
- Paper organization tools



The Library

- One of the most valuable local resources
 - Main Pitt Library
 - Carnegie Library
- Interlibrary loan
- Reserves
- Local delivery
- Search tools: <http://pittcat.pitt.edu/>



Open-Access Digital Libraries

- National Initiatives
 - <https://www.ncbi.nlm.nih.gov/pubmed/>
- Author's institutional repository
 - <https://d-scholarship.pitt.edu/>
- CiteSeerX
 - <http://citeseerx.ist.psu.edu/>



Fee-Based Digital Libraries

- Digital Portals of professional societies
 - ACM: <http://portal.acm.org/>
 - IEEE CS: <http://www.computer.org/portal/>
 - IEEE: <http://ieeexplore.ieee.org/>
- Digital content from leading publishers
 - Springer: <http://www.springerlink.com/>
 - Taylor and Francis: <http://www.tandfonline.com/>
 - Elsevier: <http://www.sciencedirect.com/>
- Free access from Pitt and remotely with VPN
 - <http://www.library.pitt.edu/offcampus>
 - <http://technology.pitt.edu/service/secure-remote-access-connect-with-the-pulse-secure-client>



Global Search Tools

- Google Search and Google Scholar
 - <https://scholar.google.com/>
- New Microsoft Academic Search
 - <https://academic.microsoft.com/>
- DBLP: <http://www.informatik.uni-trier.de/~ley/db/>
- Semantic Scholar
 - <https://www.semanticscholar.org/>
- ArnetMiner
 - <https://aminer.org/>
- ACM Portal
 - ACM: <http://portal.acm.org/>
- Most search tools allow post-search navigation
 - Authors, sources, volumes, co-authors



Social Research Portals

- Research Gate
 - <https://www.researchgate.net/home>
- Academia.edu
 - <https://www.academia.edu/>
- More than access to sources
 - Social connections (follow!)
 - Topics
 - Projects
 - Authority



Citation Bookmarking and Sharing

- Allows you to collect and share *citations* online
 - Citation scrapping when adding to database
 - Tagging for citation organization
 - Import/Export to your collection (EN & BibTeX)
 - Groups for collaborative work
 - Finding papers from people with similar interests (who bookmarked what)
- Main services
 - BibSonomy: <http://www.bibsonomy.org/>
 - Mendeley: <https://www.mendeley.com/library/>



Online Social Citation Services

- Social Tagging systems for Citations
 - Bibsonomy: <http://www.bibsonomy.org/>
 - Manage and share
 - Explore:
 - Open!
 - Power of tags!
 - Import in EndNote, Bibtex and other formats
- Challenges of social services
 - CiteULike: <https://en.wikipedia.org/wiki/CiteULike>
- Mendeley: <http://www.mendeley.com/>
 - Bringing it all together
 - Managing paper sources, bookmarking, collaboration, paper writing, integration with Web site
 - Less attention to tags now, lots of closed information



Citation Indexing and Impact

- History of Abstracting/Citation indexing
- Citation tracing: Who cites whom?
- How many citations for a paper, person, journal?
- ISI Web of Science (now Thomson Reuters)
 - <http://webofknowledge.com/>
 - Maintains Science/Social Sciences/Humanities Citation Index
 - Allow to search for both sources and citations
 - Calculates journal *Impact Factor*
 - Requires subscription
- Elsevier Scopus: <http://info.scopus.com/>



Citation Tracing and Impact on Global Portals

- Google Scholar
 - <https://scholar.google.com/>
- Old Microsoft Academic Search
 - <http://academic.research.microsoft.com/default.aspx>
- New Microsoft Academic Search
 - <https://academic.microsoft.com/>
- Semantic Scholar
 - <https://www.semanticscholar.org/>
- ArnetMiner
 - <https://aminer.org/>
- ACM Portal
 - ACM: <http://portal.acm.org/>
- CiteSeerX: <http://citeseerx.ist.psu.edu/>



How to Assess Importance/Ranking

- Field Ranking
 - Scholar, Old Microsoft Academic Search
- H-Index
 - <https://en.wikipedia.org/wiki/H-index>
 - Field dependent
 - <http://web.cs.ucla.edu/~palsberg/h-number.html>
- How to find H-Index
 - Google Scholar
 - Various tools – better search!



Unique Identity: Papers

- One of the key problem – accessing, counting impact, citing
- DOI Infrastructure
 - DOI = Unique ID of a paper
 - Managed by CrossRef <https://en.wikipedia.org/wiki/Crossref>
 - Accessed through <http://doi.org/>
- Benefits
 - Your paper will be ingested by most search engines, portals, and digital libraries (including Pitt!)
 - Will be counted for impact everywhere
 - Readers could access your paper with one-click
 - Publish in sources, which provides DOI!



Unique Identity: Authors

- A harder problem – resolving authors identity to credit papers and citations
 - Many authors with the same name or initials (citations!)
 - Several ways to cite the same author
 - Less interests from publishers, more by global portals
- Social management of identities
 - Create your profile in Google Scholar, Aminer, RG, ...
 - Claim your papers!
- New Orcid framework - <http://orcid.org/>
 - Create your ID!
 - <http://www.library.pitt.edu/orcid>
 - <http://orcid.org/0000-0002-1902-1464>



Multiple Ways to find Good Papers

- Classic search
- Identifying and following key authors
 - Impact tools and social following
- Examining top papers by topics
 - Online research portals
- Citation tracing – who cites relevant papers, what these papers cite
 - Portals with citation tracing
- Bookmark tracing – who bookmarks similar papers, what they bookmark
- Citation recommenders!
 - Google Scholar, Mendeley, ResearchGate



Accessing Online Sources

- No subscription at Pitt, problems with VPN?
- Google Scholar
 - <https://scholar.google.com/>
- Social Research portals
- Author's home page
 - <http://www.pitt.edu/~peterb/papers.html>
- Author's institutional repository
 - <https://d-scholarship.pitt.edu/>
- CiteSeerX
 - <http://citeseerx.ist.psu.edu/>



Managing Your Citation Library

- Why? Collect, sort, update, classify, use in writing
- EndNote: <http://www.endnote.com/>
 - Citation management, paper processing, some collection management tools
 - Also ProCite and other tools
- BibTex
 - Universal format for citation management using LaTeX
- Online Citation Management
 - RefWorks: <http://www.refworks.com/>
 - EndNote Web: <http://www.endnoteweb.com/>
- Zotero: <http://www.zotero.org/>
 - Free extension that can be downloaded and installed in a browser



What to use?

- Books
 - Library, Amazon (used books!)
- Finding papers
 - Scholar, ACM DL, Semantic Scholar
- Getting papers
 - ACM DL, IEEE, Publishers, CiteSeerX, Scholar, Social portals, authors' home pages, e-mail
- Investigating impact
 - Google Scholar, ISI, Scopus, other portals
- Managing your citations and paper processing
 - Bibsonomy with EndNote or BibTex, Mendeley