Literature Research
Agenda

- Introduction
- How to find?
- How to read?
- How to cite?
- How to manage?
Motivation

• Early in their research, most students are advised by their supervisors to “study the literature”

• In the beginning it is often hard to know what this means, and where to start

Schaperai Badri, Sandro Kurpiers, SWAL 2014
Research in General

- Starting point for your work: your topic
  - First orientation
  - Look for synonyms, leading researchers, frequently cited literature
  - Some source should not be used (e.g., online articles without author, contributions in online communities, Wikipedia)
  - References: Papers, conference proceedings, journals, books, and online sources with author and date of access
Distributing knowledge

- Books
- Articles in journals
- Articles in conferences
- Thesis (Bachelor, Master, PhD)
- Internet sources (e.g. blogs, Wikipedia)
- Talks and lectures
- Personal communication
- Patents
Books

Textbooks:
  • Useful as introductory sources
  • Give guidance on particular methods or techniques
  • Are aimed to students on taught courses NOT at academic researchers (normally)!!

Monographs
  • Are aimed at an academic audience
  • Often survey a field in depth and discuss ideas in detail
Journals

• There you should find information on the current thinking and research
• Can be useful to start first with journal articles that are themselves a survey of the literature on a particular topic
• Journals containing “refereed“ articles are rated more highly than those with non-refereed articles
• Can take two years or more before appearing in print
Conference and Workshop proceedings

• There you can find the most up-to-date theories
• Can be difficult for students to know the standard of a conference
• Can be hard to obtain copies of conference and workshop papers
Conference publication formats in HCI

Book Chapter
(Profound Topic Description)

Journal Articles
(Profound Research Project)

Full Paper
(Complete Research Work)

Extended Abstract
(Late Breaking Works / Demos)
Reports

• Market research reports (e.g. by consultancy groups)
• Government reports
• Often difficult to obtain / expensive
• Most of them are not reviewed by objective outsiders
• Always question the interests of the publisher
Newspapers, Magazines, Radio and TV

• Can be valuable resources for up-to-date information

• Often easy to access online

• Useful for finding a way into a subject

• Many press and broadcasting organizations are biased politically or geographically

• No peer review
Internet

• Includes many of the just mentioned resources as a digital copy

• Note that anyone can at any time put material online and offline

• Easy to download tons of material but you also have to read them

• Don‘t lose yourself in too many links
Other Resources

• Multimedia “literature“

• Gateways (academic portals)

• Resource catalogues and online databases (like: opac)

• Online literature search services (see next Slide)

• People
Conducting a Literature Review

• Searching
• Obtaining
• Assessing
• Reading
• Critically evaluating
• Writing a critical review
• Never plagiarize
Searching

• Initially define some keywords or search terms

• Use search engines and online databases to produce a list of potentially useful references

• Think about your topic and clarify your ideas

• Define your topic in one phrase

• Develop a (new) list of potentially useful references
Obtaining

- Check the catalogue of your library
  https://opacplus-ub-uni-muenchen-de.emedien.ub.uni-muenchen.de/

- Use inter-library loan

- LMU students can access a huge range of E-Media for free

- Other university websites can also be helpful
Assessing

• Assess the credibility of any text that you find
• Questions you can ask yourself about a text:
  (e.g. book)
  • Is the author someone eminent in the field?
  • Have you heard of the publisher before?
  • Is the publisher a university press?
  • Is the book in a subsequent edition?
Questions you can ask yourself about a Journal:

• Is it aimed at academics or practitioners?
• How long has the Journal existed? (look at the volume number)
• Does the Journal provide a list of its editorial board and advisors and do these people seem to be of high standing?
• Does the Journal state clearly its policy for reviewing articles? (Concentrate on articles that are peer reviewed)
Questions you can ask yourself about conferences and workshops:

- Is it an academic conference?
- Is the conference or workshop well established?
- Does the conference or workshop give details about its programme committee?
- Does it make clear its reviewing policy or were all papers accepted for presentation?
Questions you can ask yourself about Internet sources:

- Does the website make clear who owns it and provide contact details if you want to query something?
- Does the website seem to be authoritative (e.g. owned by an university or government)?
- Does the website make clear its purpose, including any disclaimers?
- Does the website show when it was last updated and is it up-to-date?

Example: http://www.scholarpedia.org/article/Attention
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How to cite?

How to manage?
Selection of Literature Search Services

- Google Scholar: [http://scholar.google.de](http://scholar.google.de)
- ACM Digital Library: [http://dl.acm.org/dl.cfm](http://dl.acm.org/dl.cfm)
- CiteSeerx: [http://citeseerx.ist.psu.edu](http://citeseerx.ist.psu.edu)
- EBSCOhost: [http://search.ebscohost.com/](http://search.ebscohost.com/)
- JSTOR: [http://www.jstor.org/](http://www.jstor.org/)
- WorldCat: [http://www.worldcat.org/](http://www.worldcat.org/)
How to research a topic - Search

Search literature (papers, articles, books, ...)
→ Libraries
→ ACM, IEEE digital libraries
  https://dl.acm.org/, https://innovate.ieee.org/
→ Google Scholar, CiteSeer
  https://scholar.google.com/
→ researcher’s / university’s website
→ classic web search
→ LMU OPAC
  https://www.ub.uni-muenchen.de/suchen/online-katalog/index.html
Access to libraries

Add

".emedien.ub.uni-muenchen.de"

to the URL of ACM and Springer pages.

Example:

http://dl.acm.org/citation.cfm?id=2501615 ---->
http://dl.acm.org.emedien.ub.uni-muenchen.de/citation.cfm?id=2501615)
How to research a topic - Search

define keywords
How to research a topic - Search

**Keyword Refinement**

1. **Avocados crossing borders: the missing common information infrastructure for international trade**
   - Theory has been applied in multiple academic domains such as developmental psychology [13], educational psychology [14], learning sciences [15], human-computer interaction [16, 17], and ...
   - A farmer located 70 km from Nairobi with ten avocado trees: "Avocados are more ...

2. **A Flexible Prototyping Tool for 3D Real-Time User-Interaction**
   - R. Blach, J. Landauer, A. Rösch, A. Simon - Virtual Environments' 98, 1998 - Springer
   - CAD systems. We see the main purpose of VR-technology in the enhancement of human computer interaction. Especially in problem ... processors are available. The Avocado system of GMD [3] follows an approach similar to our system. It is ...

3. **Research commentary—Digital infrastructures: The missing IS research agenda**
   - D. Tilson, K. Lytinen - Information systems ..., 2010 - pubsonline.informs.org
   - Zitiert von: 689 Ähnliche Artikel Alle 14 Versionen

**Limitation of Publication Date**

- **SWAL WS 2021/22 - Literature Research**

**Citation Clicks**

- #citations (click to search within citations)
Finding Literature (Google Scholar)
How to research a topic - Search

advanced search

focus on specific conference
How to research a topic - Get a paper

Publications are usually not freely available (especially on ACM, IEEE). Therefore try:

1. ACM, IEEE, ... from within university network (LMU has subscriptions)
2. Use LMU University Library: OPAC (Online catalogue)
3. Google Scholar [PDF] link
5. author’s website, https://arxiv.org, ...
6. ask people with access to ACM etc.
7. polite email to author
HCI Flagship Publications

- Conference (SIGCHI [1]):
  - CHI
  - CSCW
  - UIST
  - IUI
  - MobileHCI
  - DIS
  - ISS
  - ....

- Journal:
  - TOCHI
  - IJHCS
  - CSCW
  - IWC
  - IMWUT (formerly UbiComp)
  - ....

[1] https://sigchi.org/conferences/upcoming-conferences/
Systematic Review

1. Review question: clearly stated objectives (may include secondary ones)

2. Literature search:
   - Comprehensive literature search conducted
   - Searched information sources listed (i.e., ACM Library)
   - Keywords used for electronic literature search provided (“tech and wellbeing“)
   - Manual search conducted through references of articles, abstracts
3. Data Abstraction*:

- Structured data abstraction form used
- Disagreements listed between authors and how they were resolved
- Characteristics of studies listed (ie, manuscript type, keyword interpretation)
- Inclusion and exclusion criteria provided for studies
- Number of excluded studies and reasons for exclusion included
- Variables of interest (primary and secondary variables)
Systematic Review

- You do NOT necessarily follow all steps.
- Five GOOD papers are essential in your review.

- More Reading Material:
  - ACM Computing Surveys [1]

[1] https://dl.acm.org/journal/csur
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How to research a topic - Read

Read in multiple steps
1. skim over abstract and images → worth reading?
2. read complete → get it
3. read en detail → detailed understanding

While reading
→ take notes
→ mark text passages
→ what were they doing? how? why? results?

Finally
→ see referenced papers
Important aspects

1. What was examined?
2. How was it examined?
3. Aim
4. Results
5. Limitations
6. Difference / relevance for one's own work
Reading

• Academic reading means to “gut“ a text quickly

• If available concentrate first on the abstract

• Look at the section headings

• Usually you find key ideas of a paragraph in the first and last sentences
Critically evaluating

• Evaluate the relevance of a text to your own research
• Are there parts you disagree with?
• Even high quality papers can have omissions
Plagiarism

• Means that you have used someone else‘s words or ideas without giving them credit
• Don‘t Copy/Paste
• Avoid plagiarism by quoting !!
Take-Home Messages

- Wikipedia, Newspapers, Textbooks... provide a good introduction to the subject, but they’re not scientific literature
- Use (peer reviewed) Journals, Monographs and Conference Papers as scientific sources
- Make a step-by-step structured literature review
- Always evaluate critically
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Why should I care about citations?

- Copyright / intellectual property
- Foundation of scientific work
- Citations links belonging work together
- Reader needs all the information you had to check if you are correct
Citations

- **Quotation**
  - Direct (in quotation marks) -> “text text“ [1]
  - Indirect -> Mustermann et al. [1]
  - No secondary citation

- **Wikipedia:** not citable (but good for quick research)

- **Citation style:**
  [http://www.medien.ifi.lmu.de/studierende/abschlussarbeiten/master/richtlinien.xhtml #zitate-und-quellenangaben](http://www.medien.ifi.lmu.de/studierende/abschlussarbeiten/master/richtlinien.xhtml #zitate-und-quellenangaben)
How to write a paper - Citations

Plagiarism

→ any reuse of text has to be clearly marked (direct / indirect citations)
→ plagiarism counts as attempt to deceive, resulting in failure of class

https://www.medien.ifi.lmu.de/lehre/Plagiate-IfI.pdf
How to write a paper - Citations

Sources

→ always reference the primary source

Indirect

→ Lorem ipsum dolor sit amet [1].
→ Authors et al. [2] found out that [...] 
→ put references *always* before the dot [2].
→ multiple sources: [1, 2, 3]

Direct

→ only use direct quotes sparsely, e.g. for definitions
→ use correct English quotation marks for direct quotes: “This is a direct quote” [5].
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Introduction

How to find?

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How to research a topic - Literature management

Tools
→ JabRef, Zotero, Mendeley, Paperpile, ...

Why?
→ search and retrieve
→ labeling ('nice', 'bullshit', ...)
→ notes, citations, ...
Other Reference Managers

- Citavi
  - http://www.ub.uni-muenchen.de/schreiben/literaturverwaltung/citavi/index.html
- JabRef
  - http://www.jabref.org/