3 Literature Review

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MSc Business Information Systems

Literature Review

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The Body of Knowledge (BOK)

- Researchers in a field build up a community

    - **publications** build up their body of knowledge: journals, conference proceedings

    - **communication** also takes place in other ways, e.g. at conferences and workshops, in discussion groups etc.

- Knowing the current status of the Body of Knowledge (BoK) in the given research field is an essential first step for any research project.

Literature Review

- The literature review contains secondary literature – work previously published by other scholars.

- A good literature review is comprehensive, critical and contextualized.

- A literature review is not supposed to present research data of your own, you may however present existing literature in a new way, for example an evaluation list. This can also be published and referenced.

Purpose of a Literature Review

■ An effective literature review accomplishes this step by:

1. Helping the researcher understand the existing body of knowledge including where excess research exists (i.e. what is already know?) and where new research is needed (i.e. what is needed to be known?)

2. Providing a solid theoretical foundation for the proposed study (related to "what is already known?")

3. Substantiating the presence of the research problem (related to "what is needed to be known?")

4. Justifying the proposed study as one that contributes something new to the BoK

5. Framing the valid research methodologies, approach, goals, and research questions for the proposed study

(Levy & Ellis 2006)

The Purpose of the Literature Review

■ The good literature review shows:

- ♦ That you are aware of what is going on in the fieldThat there is a theory base for the work you are proposing to do
- ♦ How your work fits in with what has already been done
- ♦ That you work has significance
- ♦ That your work will lead to new knowledge.

■ Additional reasons for becoming familiar with the BoK:

- ♦ learn how others handled a research project similar to yours
- ♦ discover new ideas and approaches
- ♦ find solutions to particular problems of your research project
- ♦ find significant researchers and establish valuable social contacts

Thanks to Prof. Alta van der Merwe and Prof. Hanne

The Credentials

- ■ You need to:
  - ♦ Reference the leaders in the field
  - ♦ Remember, your examiners should be also leaders in the field, if they do not recognize the work you are referencing, they will doubt the credentials of the work.

- ■ If no references are given:
  - ♦ it is not clear whether you are familiar with the state-of-the-art
  - ♦ possibly, it is not credible that you obtained some results by yourself (especially if a reader knows the relevant literature)
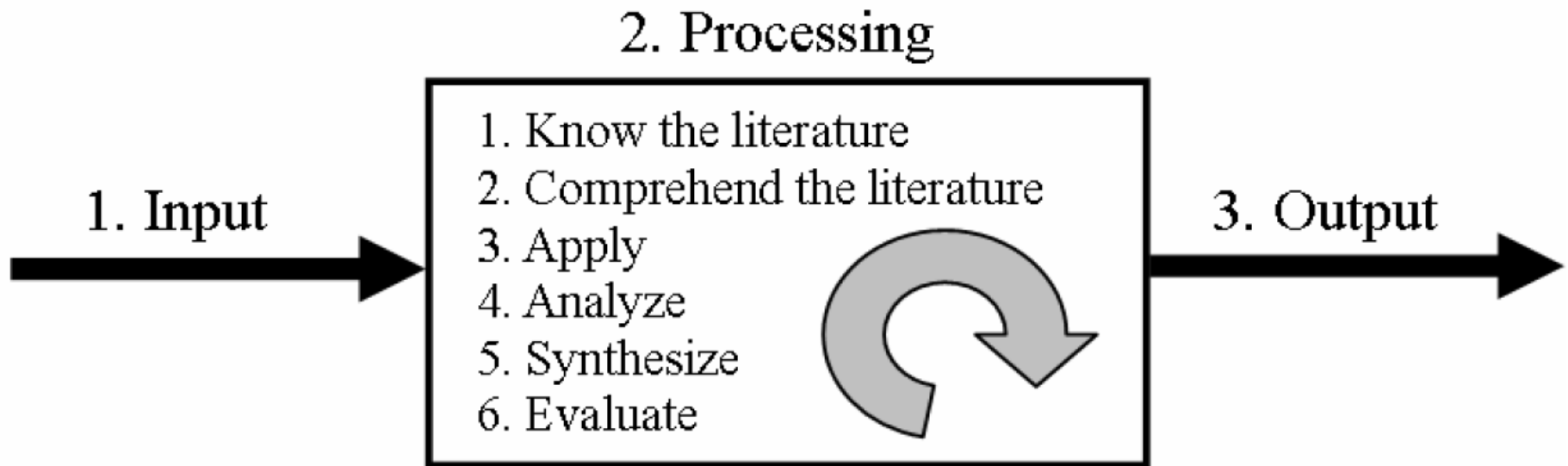
Thanks to Prof. Alta van der Merwe

Mike Webb about Referencing – a video

https://www.youtube.com/watch?v=1bYc33Bp-Yk&list=WL

Three Stages of Effective Literature Review Process

2. Processing

1. Input

1. Know the literature
2. Comprehend the literature
3. Apply
4. Analyze
5. Synthesize
6. Evaluate

3. Output

3.1 Input: Finding Literature

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Finding literature – strategies

■ Overview of strategies:

1. Get a first clue from textbooks and encyclopedias
2. Go to your library
3. Consult on-line resources and citation databases
4. Dedicated search engines
5. Use social software
6. "reverse search" from seminal papers
7. Try to find "annotated bibliography" or literature survey

■ If you struggle to find an article, consider to contact the author directly.

■ Ask your supervisor what he considers the leaders in the field.

Finding literature – Introductory Material

1. Find introductory material on a topic

    ♦ look for textbooks and monographs, e.g. from library

    ♦ check encyclopedic and introductory resources

      ● Wikipedia
      ● other encyclopedias
      ● (online) tutorials
      ● lecture notes

■ Note: these resources are useful for

    ♦ introduction to a topic

    ♦ finding references to original work

    but frequently do not constitute valuable references to a research article

adapted from Thomas Hanne

Finding literature – Online Resources

2. Consult on-line resources: Citation databases, digital libraries

    ♦ allow us to identify the articles cited most frequently

    ♦ allow us to find articles which cite a given publication

        $\Rightarrow$ location of newer work in a given field (see below)

    ♦ allow us to count how frequently articles of a specific journal are cited (impact factor)

♦ Scopus
♦ SciVerse Hub
♦ Google Scholar
♦ Scirus
♦ ACM Digital Library
♦ IEEE Xplore
♦ Citation indexes: SCI, SSCI, A&HCI
♦ CiteseerX
♦ DBLP
♦ … and many others

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adapted from Thomas Hanne

Finding literature – Social Software

3. Use social software

♦ Idea: share references in a particular research field with others

♦ Examples: Bibsonomy, CiteULike

♦ Possibilities for finding papers:

● Search tags, browse tag clouds

● explore libraries of researchers with similar interests

● Get recommendations based on contents of your library

▼ **Find related articles from these CiteULike users**

■ fwitschel, bemike, mcartright, CIIR (group), jykim, LanguageModeling (group), ilps (group), ejmeij

▼ **Find related articles with these CiteULike tags**

■ concept, expansion, feedback, indri, ir, latent, lm, markov_random_field, mrf, no-tag, query, query_expansion, query_model, query_modeling, relevance_feedback, relevance-model

Finding literature – Digital Libraries

4. Reverse search from seminal papers

 ♦ find a "ground-breaking" paper in your area

 ♦ consult a citation database for papers that cite this work

  ● these are often further refinements of the original idea.

  ● And: they are more recent than the seminal paper!

ACM DL DIGITAL LIBRARY

| Abstract | Authors | References | Cited By |

Query expansion using local and global document analysis

Full Text: Pdf   Buy this Article

344 Citations

Tetsuya Sakai , Masahiro Kajiura , Kazuo Sumita, A first step towards flexible local feedback for ad hoc retrieval, Proceedings of the fifth international workshop on on Information retrieval with Asian languages, p.95-102, September 30-October 01, 2000, Hong Kong, China

Shun Hattori , Taro Tezuka , Hiroaki Ohshima , Satoshi Oyama , Junpei Kawamoto , Keishi Tajima , Katsumi Tanaka, ReCQ: real-world context-aware querying, Proceedings of the 6th international and interdisciplinary conference on Modeling and using context, p.248-262, August 20-24, 2007, Roskilde, Denmark

Chien-Kang Huang , Lee-Feng Chien , Yen-Jen Oyang, Interactive Web Multimedia Search Using Query-Session-Based Query Expansion, Proceedings of the Second IEEE Pacific Rim Conference on Multimedia: Advances in Multimedia Information Processing, p.614-621, October 24-26, 2001

Finding literature – Bibliographies

5. Try to find annotated bibliographies / literature surveys:

- ♦ **Annotated bibliographies:** paper which discusses other publications in a field of research
  - ● gives some comments on each paper without going into details
  - ● frequently papers are grouped according to subfields of the area
  - ● usually no comments on the usefulness or quality of papers
  - ● An example: http://www.springerlink.com/content/j15j158945723185/

- ♦ **Literature surveys:** summarise and judge
  - ● key concepts in the area of research (summary)
  - ● presentation of a coherent view on these concepts (synthesis)
  - ● discussion of important insights and weaknesses in the discussed literature (analysis)

Quality of references

■ Some general criteria for the quality of a publication:

♦ peer-reviewed!

♦ international

♦ quality of journal or conference where published

● impact factor = average number of citations of articles within a journal or conference

♦ recent

■ Internet

♦ Don't trust Internet resources – you don't know the quality. Anyone can publish anything. First consider journals, conference proceedings, books before considering Internet resources.

♦ Don't use wikipedia (except for introduction or background ideas)!

Important Questions

■ Questions to ask when considering the quality of work:

♦ Who is the author? Do that tell you anything about the work?

♦ Who is the publisher?

♦ When was the work published?

♦ Is there a thesis or a theme running through the work?

♦ Does the author adequately cover his/her topic?

♦ What basic assumptions or 'givens' can you spot?

♦ Are the method used and evidence provided appropriate?

♦ Does the piece work as a whole or are some parts stronger than others?

♦ Is the author being controversial?

♦ Is the work logically structured? Is there enough background information?

Thanks to Prof. Alta van der Merwe

Processing Literature

Academic Reading

■ Be careful that you do not drown in the heap of available works.

■ Know the top researchers in a field – start by investigating the top conferences – the newest work should be published there.

■ Remember, academic reading is done for a purpose. You need to name that purpose BEFORE you start.

■ Skim each work to find out whether it is worth reading, or contains bits that are worth reading, according to your purpose. Once you find what you need,

  ♦ Make sure you understand the information, and then
  ♦ Extract what you need (make notes, endnote ..)

Thanks to Prof. Alta van der Merwe

Skimming

■ You will not be able to read everything word for word the first time that you search thru literature, when skimming:

- ♦ Books: look at the table of contents, bibliography, introduction and first and last paragraphs in chapters,

- ♦ Articles and dissertations: skim the abstract, the introduction, conclusion and bibliography

- ♦ Online resources: skim the organization, abstract, read content by looking for key words.

■ Skim according to keywords. Make a list and first look them up when you read an article / work.

■ The first sentence in a paragraph should be the most important – read that to get an overview of the paragraph

Thanks to Prof. Alta van der Merwe

How to read a research article

- read title and author name(s)
- if still interesting: read abstract
  - ♦ usually these first 2 steps can be taken online before actually obtaining the article
- if still interesting: scan introductory section, browse the headings and subheadings, look through the bibliography
- if still interesting: check results and conclusions

- in the above, "interesting" means that the article is relevant to your own work
  - ♦ the closer your own research project is related to a paper the more detailed you need to read it

adapted from Thomas Hanne

Keep notes on read articles

- Why? → Because you quickly forget
  - ♦ the content of the article
  - ♦ the relationship of the article to your work

- What?
  - ♦ bibliographic details (title, author etc.), location (e.g. URL)
  - ♦ summary (useful for beginners)
  - ♦ what's interesting (for you) in it? → "plagiarist file" (A. van der Merwe)
  - ♦ Use Literature Management tools like Mendeley or Endnote.

- In addition:
  - ♦ keep an overview of ideas/topics you found in papers read so far
  - ♦ e.g. as a mind map
  - ♦ later, a consolidated version of the mind map can become the structure of your related work section

adapted from Thomas Hanne

Record your ideas ..Your ideas will become key concepts in your dissertation!

Writing the Literature Review

■ When writing the literature review continuously ask yourself: 'how is the work presented in the article related to my study?'

■ An effective and quality literature review is one that is based upon a **concept-centric approach** rather than chronological or author-centric approach

■ Principle for summarising literature

1. cluster references by topic/concept

2. give the clusters labels (abstraction task!)

3. when writing: present one cluster per paragraph/subsection

   a) first state the commonalities of papers that make them belong to the cluster

   b) then shortly address individual differences (optional, depends on relevance of cluster to your work)

Summarising literature

A & B (1998) introduced X. Another approach is the Y method: C et al. (1999) discuss how ... can be achieved through... In (D 2002), the Z is mentioned, which takes a perspective similar to (A & B 1998)... Finally, (E & F 1999) have to be mentioned, who further develop the approach of (C 1999)...

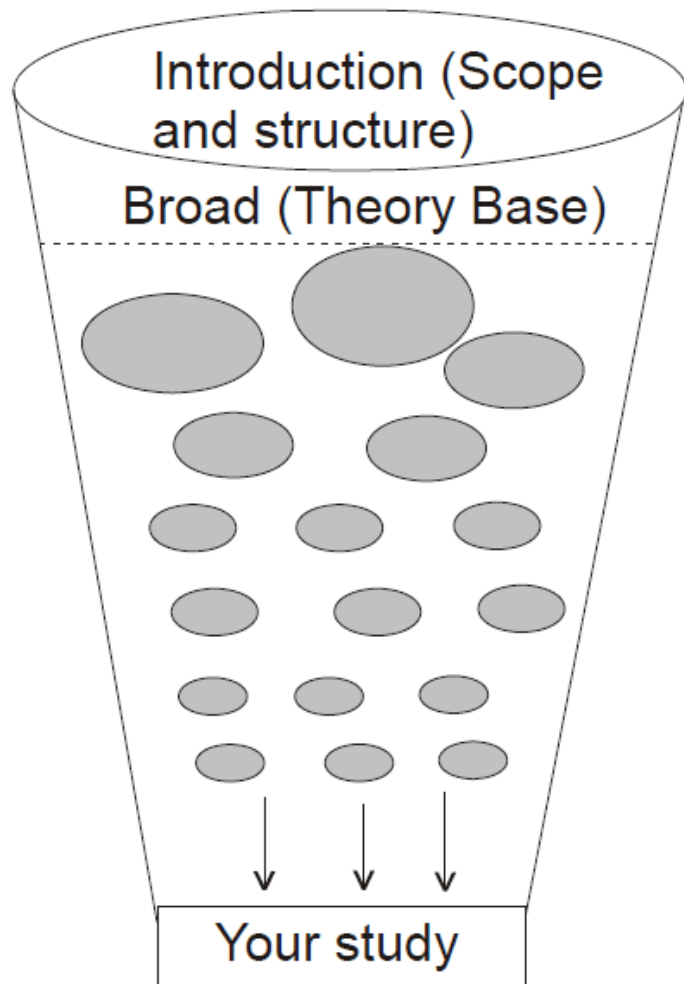**Anything wrong with this?**

Example: summarising literature

Better would be:

For the task of TT, two approaches can be distinguished

- using X/Z, as discussed by (A & B 1998; D 2002)
- following the Y method as suggested by (C et al. 1999) and further developed by (E & F 2004)

Structuring Literature Review: Funnel Method

Introduction (Scope and structure)

Broad (Theory Base)

Your study

■ The "funnel method" of structuring a literature review as shown in the figure is designed to make sure that all the objectives of the literature review are met automatically.

■ Applied properly, your credentials and originality, as well as the theory base, context and significance of your work will all emerge without further effect on your part.

Thanks to Prof. Alta van der Merwe

Categorizing works
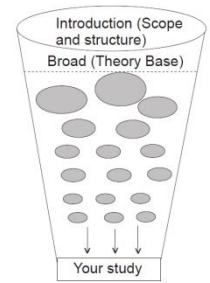
- Group works according to commonality.

- No rules on the number of groups or number of commonalities.

- Make notes on index cards, Endnote, categorizing in a file cabinet.

- Start with the theory base – the basic works in your field. These may be related to your field, but not necessary your focus. Relate to your topic rather than your thesis statement.

- Next level will be nearer to your work, but not a 100% match.

- The lower you go in your funnel, the nearer to the work that you are doing you will move.

Introduction/Conclusion
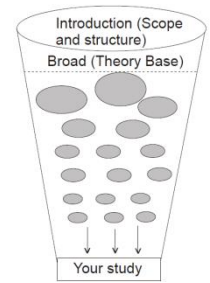
- Write your introduction of your literature review lastly. You then know the order of the works that you will address and can give a better overview of what the reader should expect.

- Give a summary of the state of the scholarship as it pertains to your thesis in the conclusion. Note the preference of the word conclusion / summary at the end of a chapter.
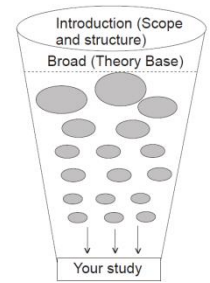
Selecting Works to include

■ How many works in a literature review?

■ There is no golden number.

■ Important – include newer references! With the exception of one or two fields, no research field is worth while investigating if it is not written about.

■ Stay away from to many general works – especially text books.

■ Don't get carried away for pages and pages on irrelevant work.

■ When you consider including or excluding a work, look at your wall (your thesis statement should be there), how does the work relate to this?

■ References should support your arguments!

■ Limit your literature review at the end if it is to comprehensive in the beginning.

Thanks to Prof. Alta van der Merwe

Context and Significance

- It is important to show where the 'gap' is in the literature. Show what you propose to do relate to what others has done.

- After the reader have read your literature review, there must be no doubt that your work has some significance.

- Ensure that you show your significance constantly by indicating what the gap is in the existing literature while presenting it.
  - While contributing … () does not address [your originality]
  - However, he fails to consider the problem in the South African context [while you do].

Managing Literature

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Use a literature management system(1)

- store and organize references for publications

- generate a list of references
  - ♦ export function to document processing tools such as Microsoft Word or LaTeX

- make comments on publications

- provide key words or tags for grouping publications

- particularly useful
  - ♦ when the number of references is not too small (say > 20)
  - ♦ if the references are reused for different publications (with different formatting standards)
  - ♦ in the case of collaborative work

Use a literature database (2)

■ Literature management – some common tools:

♦ EndNote(www.endnote.com)

♦ EndNote Web

♦ RefWorks (www.refworks.com)

♦ Reference Manager (www.refman.com)

♦ ProCite (www.procite.com)

♦ Zotero (www.zotero.org)

♦ Mendeley (www.mendeley.com)

♦ citavi (www.citavi.com)

Example: Mendeley

Connectors to Word, LaTeX

Full-text search

Libraries

Sharing references
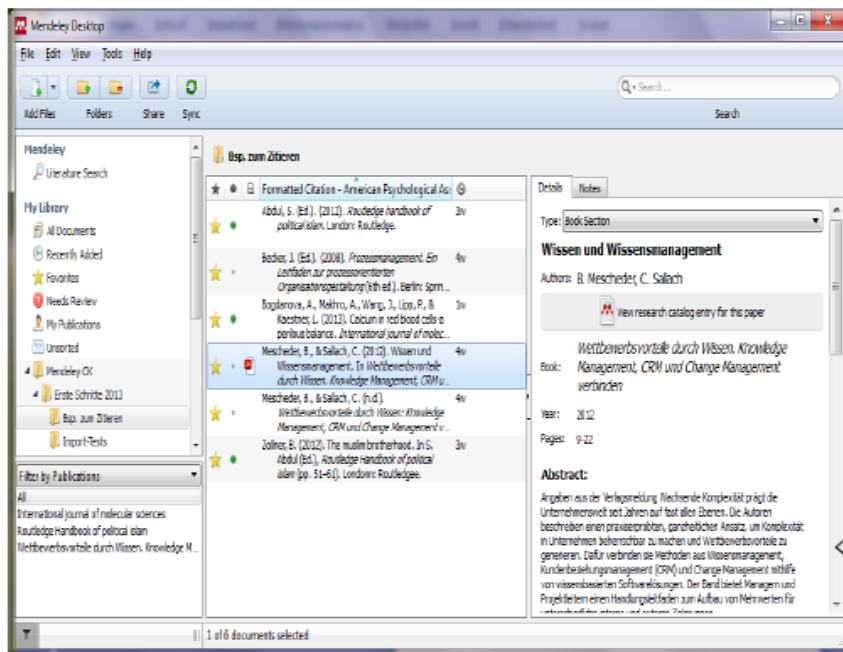
List of authors

Metadata

Link to file

Mendeley can automatically extract metadata from PDF and organize your files

Two Versions

Desktop

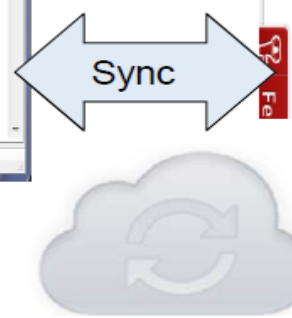## Web

Sync
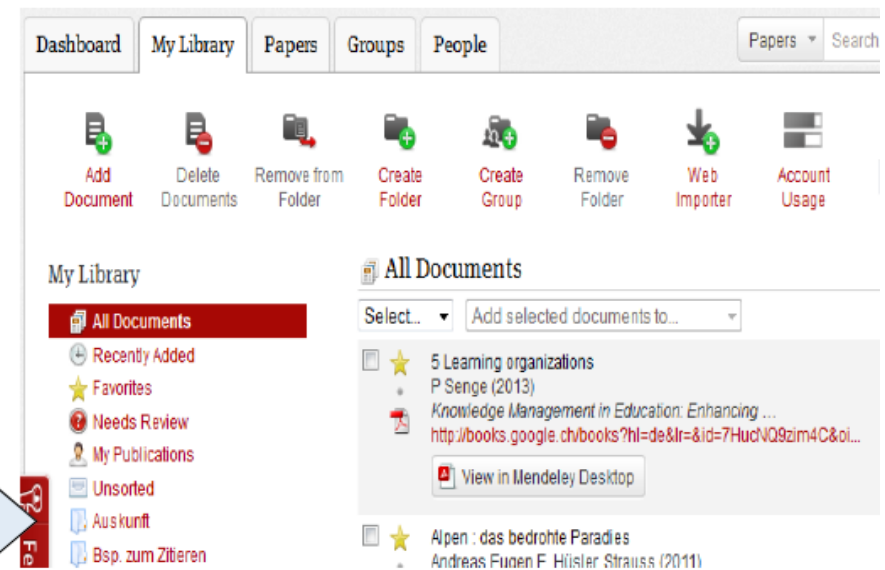
Adding Entries and Referencing

- **Adding Entries**
  - ♦ Manually
  - ♦ Drag & Drop
  - ♦ Web-Importer
  - ♦ Export from Databases (via RIS file)
  - ♦ Watchfolder
  - ♦ DOI (= Digital Object Identifier)

- **Automatic detection of bibliographic data from PDF and DOI**

- **Automatic Referencing**
  - ♦ Plugin for Microsoft Word
  - ♦ BibTeX export

Citing Literature

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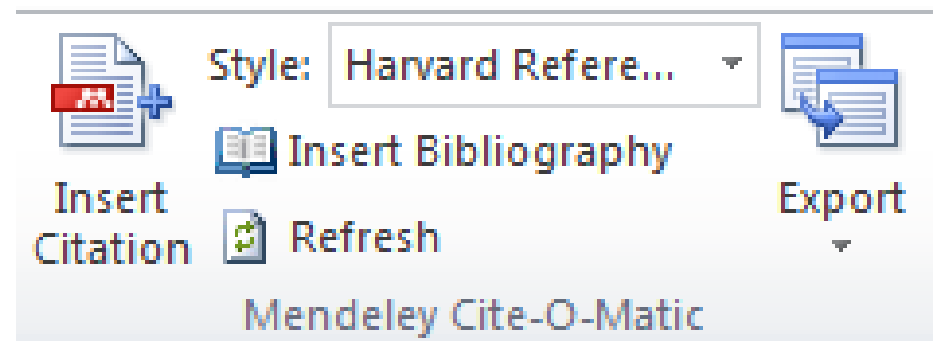
Citation Systems

- Citations Systems typically distinguish between two parts:
  - ♦ **Citation** in the text
  - ♦ **Reference list** with the details of the source

- For intext citations there are a lot of styles
  - ♦ Placement: In the text, as footnotes or as endnotes
  - ♦ References can be made as
    - Numbers, e.g. [1], [2]
    - Abbrevations of Authors, e.g. [AHMM01], [SmWe02]
    - Author-year Style, e.g. (Smith 2002), (Smith et al. 2003)

- If your university or supervisor does not request a specific style, I recommend that you use a **author-year style**, because a reader can already see from the reference what work is meant.

- An Example of a author-year style is the Harvard System

Harvard Referencing

- Harvard Style is not a standard but a family of standards. Different versions vary slightly. It does not matter which version you use as long as you use it correctly and consistently.

- Many university have guidelines for the Harvard System, for example Anglia Ruskin University (see dropbox)
  - Anglia Ruskin University, 2013. Guide to the Harvard Style of Referencing. Fifth Edition. Available at: <http://libweb.anglia.ac.uk/referencing/files/Harvard_referencing_2013.pdf> [Accessed 12 May 2014].

- Here is a link to an online description:
  - http://www.education.ex.ac.uk/dll/studyskills/harvard_referencing.htm

- You can also look at the videos by Mark Webb
  - Part 1 (general): https://www.youtube.com/watch?v=E7Laol_ALeU
  - Part 2 (specifics): https://www.youtube.com/watch?v=1bYc33Bp-Yk

Harvard System

- Intext citation
  - ♦ The Harvard System uses an author-year style for intext citation
  - ♦ The author's surname and year of publication are **cited** in the text of your work. It does not use footnotes or endnotes
  - ♦ Example:

    "An effective structure is important" (Redman, 2006, p.22)

- Reference list
  - ♦ The full details of the source are included in a **reference list** at the end of your work.
  - ♦ Example:

    Redman, P., 2006. *Good essay writing: a social sciences guide.* 3rd ed. London: Open University in assoc. with Sage.

Harvard Style: References in the Text

- Intext citations list the author(s), the year and, if referring to a specific part of the work, the relevant page/page numbers.

- If you cite from more than one work by the same author(s), allocate alphabetical lettering to each of these separate works.

- Here are examples for publications with one, two and more authors:
  - ♦ (Smith 2002)
  - ♦ (Smith and Wesson 2002a)
  - ♦ (Smith et al 2002, p. 23)

- If the authors are mentioned in the text the parenthesis only contain the year and optionally the page number. Example:
  - ♦ "As explained by Smith (2002) …"

Examples of Intext Citations (1)

- When making **reference to an author** in your text, their name is followed by the year of publication of their work:

  In general, when writing for a professional publication, it is good practice to make reference to other relevant published work. This view has been supported in the work of Cormack (1994).

- Where you are mentioning a particular part of the work, and making direct reference to this, a page reference should be included:

  Cormack (1994, pp.32-33) states that 'when writing for a professional readership, writers invariably make reference to already published works'.

- If you make **reference to a work** without mentioning the author in the text then the author's name and publication year are placed at the relevant point in the sentence or at the end of the sentence in brackets:

  Making reference to published work appears to be characteristic of writing for a professional audience (Cormack, 1994).

- Where reference is made to **more than one author** in a sentence, and they are referred to directly, they are both cited:

  Smith (1946) and Jones (1948) have both shown …

(Anglia Ruskin University 2013)

Examples of Intext Citations (2)

- When there are **two or three authors** for a work, they should be noted in the text using "and":

  White and Brown (2004) in their recent research paper found …

  Recent research (White and Brown, 2004) suggests that…..

  Further research (Green, Harris and Dunne, 1969) showed.

- Where there are **four or more authors**, only the first author should be used, followed by "et al." meaning "and others": :

  Green, et al. (1995) found that the majority …

  Recent research (Green, et al., 1995) has found that the majority of ….

- References to **several publications from a number of authors** should be cited in chronological order:

  Recent research (Collins, 1998; Brown, 2001; Davies, 2008) shows that ....

- **Several works by one author** in different years:

  as suggested by Patel (1992; 1994) who found that …

- Several works by one author in the same year should be differentiated by adding a lower case letter directly, after the year for :

  Earlier research by Dunn (1993a) found that…but later research suggested again by Dunn (1993b) that ……

  (Anglia Ruskin University 2013)

Reference List

- The **reference list** should include details for everything that you cite in your assignment.

- The term **bibliography** is a synonym for reference list.

- It occurs at the end of your work and should be in alphabetical order according to the surname of the (first) author

- All the different types of material in one sequence.

- The bibliography entries depend on the type of publications (journal article, book, book chapter, URL, …). Harvard Style defines what has to be listed for each type of publication.

Compiling a Reference List (1)

Required items for some often used entries:

■ Books:

♦ Authors, Initials., Year. *Title of book.* Edition. (only include this if not the first edition) Place of publication* (this must be a town or city, not a country): Publisher.

Adams, R.J., Weiss, T.D. and Coatie, J.J., 2010. The World Health Organisation, its history and impact. London: Perseus.

Barker, R., Kirk, J. and Munday, R.J., 1988. Narrative analysis. 3rd ed. Bloomington: Indiana University Press

■ Books which are edited:

♦ Author, Initials. ed., Year. *Title of book.* Edition. Place: Publisher .

Keene, E. ed., 1988. Natural language. Cambridge: University of Cambridge Press..

Barker, R., Kirk, J. and Munday, R.J., 1988. Narrative analysis. 3rd ed. Bloomington: Indiana University Press

(Anglia Ruskin University 2013)

Compiling a Reference List (2)

- **Chapters of edited Books:**
  - Chapter author(s) surname(s) and initials., Year of chapter. Title of chapter followed by **In:** Book editor(s) initials first followed by surnames with ed. or eds. after the last name. Year of book. *Title of book*. Place of publication: Publisher. Chapter number or first and last page numbers followed by full-stop.

    Samson, C., 1970. Problems of information studies in history. In: S. Stone, ed. 1980. Humanities information research. Sheffield: CRUS. pp.44-68.

- **E-books:**
  - Author, Initials., Year. *Title of book*. [e-book] Place of publication: Publisher. Followed by **Available through**: Anglia Ruskin University Library website <http://libweb.anglia.ac.uk> [Accessed date].

    Fishman, R., 2005. The rise and fall of suburbia. [e-book] Chester: Castle Press. Available through: Anglia Ruskin University Library website <http://libweb.anglia.ac.uk> [Accessed 12 May 2010].

    (Anglia Ruskin University 2013)

Compiling a Reference List (3)

■ Print journal article:

   ♦ Author, Initials., Year. Title of article. *Full Title of Journal,* Volume number (Issue/Part number), Page number(s).

   Boughton, J.M., 2002. The Bretton Woods proposal: a brief look. Political Science Quarterly, 42(6), p.564.

   Cox, C., Brown, J.T. and Turmpington, W.T., 2002. What health care assistants know about clean hands. Nursing Today, Spring Issue, pp.647-85..

■ Conference paper:

   ♦ Author, Initials., Year. Full title of conference paper. In: followed by editor or name of organisation, *Full title of conference*. Location, Date. Place of publication: Publisher.

   Brown, J., 2005. Evaluating surveys of transparent governance. In: UNDESA (United Nations Department of Economic and Social Affairs), 6th Global forum on reinventing government: towards participatory and transparent governance. Seoul, Republic of Korea, 24-27 May 2005. New York: United Nations.

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Compiling a Reference List (4)

- **Reports by organisations:**
  - Authorship/Organisation, Year. *Full title of report*. Place: Publisher .

    Department of Health, 2001. National service framework for older people. London: Department of Health.

- **Dissertations:**
  - Author, Initials., Year of publication. *Title of dissertation*. Level. Official name of University.

    Richmond, J., 2005. Customer expectations in the world of electronic banking: a case study of the Bank of Britain. PhD. Anglia Ruskin University.

(Anglia Ruskin University 2013)

Citation rules

■ all referenced sources of information must be listed in the reference list; some publishers require that *only* referenced sources are listed in the references section

■ for "larger" references, such as books, add page numbers when referencing them

■ give precedence of printed sources to internet sources (if both forms of the same article are available, both can be stated)

■ internet resources should be supplemented with a statement of (last) access

Exercises

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Finding literature – when to stop?

■ Discussion: The process of literature research is obviously highly recursive: what are criteria for stopping (temporarily)?