REVIEWING THE LITERATURE:

CONTEXT TO YOUR RESEARCH

(For doctoral students)

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Contents

1 Introduction ........................................................................................................................................2
2 A literature review ............................................................................................................................3
3 Why write a review of the literature? .................................................................................................3
4 Define the purpose and the topic .......................................................................................................4
5 Reading material ................................................................................................................................4
6 Managing your reading materials and referencing ........................................................................4
7 Critical reading ................................................................................................................................5
  7.1 Questions for effective reading ......................................................................................................5
  7.2 Taking notes ..................................................................................................................................6
  7.3 Plagiarism and Intellectual Property .............................................................................................6
  7.4 Web based material ......................................................................................................................7
8 Structure ...........................................................................................................................................7
9 Begin to write ....................................................................................................................................8
  9.1 Linking words ...............................................................................................................................8
10 Self-assessment ...............................................................................................................................9
11 Acknowledgements ........................................................................................................................10
12 Bibliography ....................................................................................................................................10
1 Introduction

This help sheet is intended as back up to the workshops provided by the Graduate School. It does not replace the detailed and practical information given in these workshops, by tutors or supervisors. It is strongly recommended that you read relevant literature reviews, transfer reports and theses written by students in your department/division.

Departmental / Divisional requirements vary. Some faculties ask for a formal ‘Literature Review’ section, others include the literature context in sections such as the Introduction. To find out more see your research group information, student handbook, consult your Director of Postgraduate Studies (DPS), postgraduate tutor, or postgraduate administrator. If you have difficulty locating these please contact graduate.school@imperial.ac.uk

If you are writing a systematic review some of this information may be useful to you, but if you e-mail us, we can forward further information on how to proceed.
2 A literature review

An effective literature review analyses, synthesises and evaluates knowledge on a particular topic. It provides the context to your thesis, proposals, transfer reports and publications. Moreover, it brings the reader up to date with the relevant literature.

It should be defined by a guiding concept (e.g. your research objective, your argumentative thesis). An important aspect of any literature review is being able to search for and find relevant information: time and attention should be paid to formulating your search strategy.

A cohesive literature review:

- Account for differing opinion, acknowledge opposing viewpoints and clarify your position
- Back up your argument/opinion/evidence with facts and theory in the literature
- Give some reason for your choice in ordering the material.

3 Why write a review of the literature?

A literature review helps and enables you to:

- Identify the relationship between previous research and your project, even if you write it before data collection
- Define and limit your study area to form a research question
- Direct your literature search and reading
- Increase your knowledge and background on the subject area
- Give context and perspective to your research
- Identify areas to be explored, suggesting further research
- Evaluate possible research methods
- Identify people working in your field.

The reader can:

- Organise and synthesise previous information
- Relate previous information to your research question
- Compare and contrast views
- Criticise aspects of methodology
- Formulate questions for further research
4 Define the purpose and the topic

Defining the purpose (e.g. introduction to a scientific paper, chapter of a thesis, funding proposal) helps focus the scope of the review. Follow the guidelines provided by your programme of study, journal or funding body.

Defining the topic (= research question) will aid to focus your review, and search for reading material (could other words be used, synonyms or variations in spelling?)

5 Reading material

Your supervisor, postdocs and other PhD students may be able to indicate initial reading material.

Liaison librarians can help you to use and locate library and interlibrary resources:

http://www.imperial.ac.uk/admin-services/library/subject-support/ and

Bibliographies and reference lists in materials you read will help to find further articles.

Spiral catalogue, the Digital Repository for research output of Imperial College:
http://spiral.imperial.ac.uk/

EThOS – Beta: British Library electronic theses online service (http://ethos.bl.uk/Home.do)

Index to Theses: theses accepted in Great Britain and Ireland since 1716 (http://www.theses.com/).

The library has courses to support you in making your search:
http://www.imperial.ac.uk/study/pg/graduate-school/professional-skills/doctoral/

Online library information:

- reference management, plagiarism and other topics:
  http://www.imperial.ac.uk/admin-services/library/research-support/

- databases and access to the library collections

- copyright and embargo of thesis: http://www.imperial.ac.uk/research-and-innovation/support-for-staff/scholarly-communication/open-access/theses/

6 Managing your reading materials and referencing

Set up your own reference library since the beginning of your search.

Library: http://www.imperial.ac.uk/study/pg/graduate-school/professional-skills/doctoral/shortcourses/infomanagement/

LaTeX templates: http://www.prettyprinting.net/imperial.
7 Critical reading

- Keep your research question and purpose in mind when you read
- Before reading think about what you expect from that document. Do you need to read everything with equal attention?
- Look at figures and graphs, skim the headings, abstract, introduction and the conclusion to decide what you need to read more
- Previewing or pre-reading can help focus and stop you collecting unnecessary information.

While reading, always keep the critical focus:

- Check the authors’ credibility: what are their credentials/qualifications?
- What is the perspective of the writer? (e.g. cultural context)
- Check approach and methods: compare with other works
- How current is the material?
- Who is the intended audience?
- How relevant is the material?
- Are the arguments logical, with evidential support?
- Were the methods appropriate?
- What, if anything, in the material is new?

7.1 Questions for effective reading

Asking specific questions helps to develop analytical/critical skills, keep an objective outlook, and focus and deal with the material. Develop your own questions; below are some non-specific examples (adapt them to suit your reading):

- What did the authors want to discover?
- Why is the research important?
- What was measured?
- What information do you have on the data / sample?
- How did the authors collect the data?
- Are sources of error tested properly?
- Are new techniques presented? if so how well are they justified/tested?
- What were their results?
Reviewing the literature

- What do the authors conclude?
- Can you accept their findings?
- How can you apply these findings to your own work?

### 7.2 Taking notes

Follow your reading questions when taking notes; use your own words and add your critical comments (reduces risk of plagiarism and helps to filter information).

- Summarise the authors conclusions and evidence
- Comment on research methodology
- Compare and contrast the views of other authors
- Make a note of what you think about the material, especially if you need to clarify
- Keep track of the difference between your ideas and those of other authors
- Keep clear references in case you want to look at the material again, or cite it in your review

### 7.3 Plagiarism and Intellectual Property

It is crucial to separate an author's evaluation of research from your own. Organisation, note taking and referencing can help ensure that your work is correctly referenced. Make sure that you understand what needs to be referenced.

Plagiarism of **ideas** = paraphrasing facts or arguments without citation. Any ideas you get from materials, even when written in your own words, need to be referenced.

Plagiarism of **words** = copying an author exactly without putting the words in quotation marks. Even with citation information, you also need to use quotation marks. Citations of quotations usually include page numbers.

Imperial College of London’s policy on plagiarism:

[http://www.imperial.ac.uk/admin-services/library/research-support/plagiarism-awareness-for-researchers/](http://www.imperial.ac.uk/admin-services/library/research-support/plagiarism-awareness-for-researchers/)

Registry information on procedures:

[http://www.imperial.ac.uk/about/governance/academic-governance/regulations/](http://www.imperial.ac.uk/about/governance/academic-governance/regulations/)

Imperial College Enterprising Students Network Group: Intellectual Property Video resources

- [https://www.youtube.com/watch?v=147K56krTaA&feature=youtu.be](https://www.youtube.com/watch?v=147K56krTaA&feature=youtu.be)
- [https://www.youtube.com/watch?v=prgL31Nyf-0&feature=youtu.be](https://www.youtube.com/watch?v=prgL31Nyf-0&feature=youtu.be)
- [https://www.youtube.com/watch?v=32Ancu7a7Lw&feature=youtu.be](https://www.youtube.com/watch?v=32Ancu7a7Lw&feature=youtu.be)
7.4 Web based material

There is a lot of information on the internet: if access is through academic databases it is usually peer reviewed, most online information is not. It is crucial that you read all written material critically and objectively, apply the above critical reading guidelines to all material you read, if in doubt do not use it. And also: why does the site exist? What are the affiliations? URL [gov/com/ac.uk/edu]?

8 Structure

Planning your work helps you ensuring that your literature review is a coherent piece of work (Table 1). Mind mapping can help to work out an outline for the review as a whole.

Outlines can help evaluate different structures: discuss these with your supervisor before you start writing. With the basic framework (title, introduction, main body, conclusion and references), there are several possible organisations for the main body such as:

- Chronological: for topics that have been changed in stages, you may organise your literature according to these stages;
- thematic: for research questions that are answered by applying different approaches; may organise your literature review according to these approaches;
- models or theories: if in your research field major models/theories are used, you may group your reading material accordingly and write about those models/theories;
- methodological: if other authors applied different methods, each section may focus on a method;
- policy: you may organise your literature review according to the policies you work on.

Table 1. Possible literature review section content (look at examples in your Department)

<table>
<thead>
<tr>
<th>Literature Review Section</th>
<th>Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title</td>
<td>Concise and descriptive of topic</td>
</tr>
<tr>
<td>Introduction</td>
<td>Guides reader by establishing scope and importance of topic and where it fits in the broader research field</td>
</tr>
</tbody>
</table>
| Main body: divided into sub-sections according to the chosen organisation | Synthesizes publications: concepts, facts, theories
Identifies, analyses and evaluates: different views in the literature, emerging concepts, gaps and inconsistencies |
| Conclusion                                 | Summarises key ideas, gaps, inconsistencies identified
Proposes further research (often ends with key questions the research will address)
Highlights implications |
| References                                 | Shows comprehensive and updated review of literature
Complete, consistent and accurate list of cited references (check for department/division reference style) |
9 Begin to write

It may be difficult to know whether you 'know enough' to start to write. Preparing a mind map and writing a draft can help you to decide if you need some more reading.

Make the literature relevant and be critical, not simply list work. Link it to the rest of the document, showing the relationship between the literature review and the other parts.

Suggestions:

- Read the literature reviews of some theses in your area.
- Be respectful and objective, criticisms of other authors' works need to be fair.
- Avoid a personalised tone and vague or qualifying statements (e.g. perhaps).
- Check your reference list as you write.

9.1 Linking words

| To add views                  | Again, also, in addition, as well as, moreover, furthermore, still, next, what is more, and |
| To give examples             | For example, for instance, one example is, to illustrate, namely, as an illustration, in this case |
| To contrast                  | However, but, although, despite, nevertheless, on the contrary, yet, even so, even though, on the other hand |
| To repeat                    | as I have said, as has been said, as has been noted, moreover, furthermore |
| To show argument             | Therefore, thus, because, evidently, although, meanwhile, in conclusion, however, as a result, moreover, at this point, consequently, since, hence |
| To emphasise                 | Indeed, in fact, certainly, especially, particularly, unquestionably, without any doubt, definitely |
| To make a concession         | Whilst, although, even though, however |
| To put things in sequence    | First, firstly, second, secondly (etc), then, after that, following, again, and, and so forth, and so on, subsequently, later, finally, thereafter, to conclude, lastly |
| To sum up or conclude        | Finally, as a conclusion, to conclude, all in all, in other words, in short, in brief, to sum up, as I have said, as has been stated, on the whole, in general |

(Adapted from: https://egrs.jcu.edu.au/workshops/international-bridging-program/workshop-notes/critical-paragraphs-and-lit-reviews)
10 Self-assessment

- Have you identified the key facts, theories and concepts of the subject area?
- Have you stated why you included/excluded literature?
- Is the purpose of the review clear?
- Have you emphasised recent research developments and emerging concepts?
- Have you organised your work logically?
- Is the detail included important?
- Is your criticism adequate?
- Did you clarify when results conflicting or inconclusive, and discuss possible reasons?
- Are wider implications indicated?
11 Acknowledgements

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12 Bibliography


University of North Carolina at Chapel Hill. Literature Reviews. Available from: http://writingcenter.unc.edu/handouts/literature-reviews/


[Online material accessed 9/2017]