Projects in Computing and Information Systems

CH5

Literature searching and literature reviews

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Textbook : Projects in Computing and Information Systems A Student's Guide by Christian Dawson

Literature searching and literature reviews

Aims: مهارات البحث عن الإنتاج الفكري و الأدبي و مراجعته

To introduce the skills needed to undertake literature surveys.
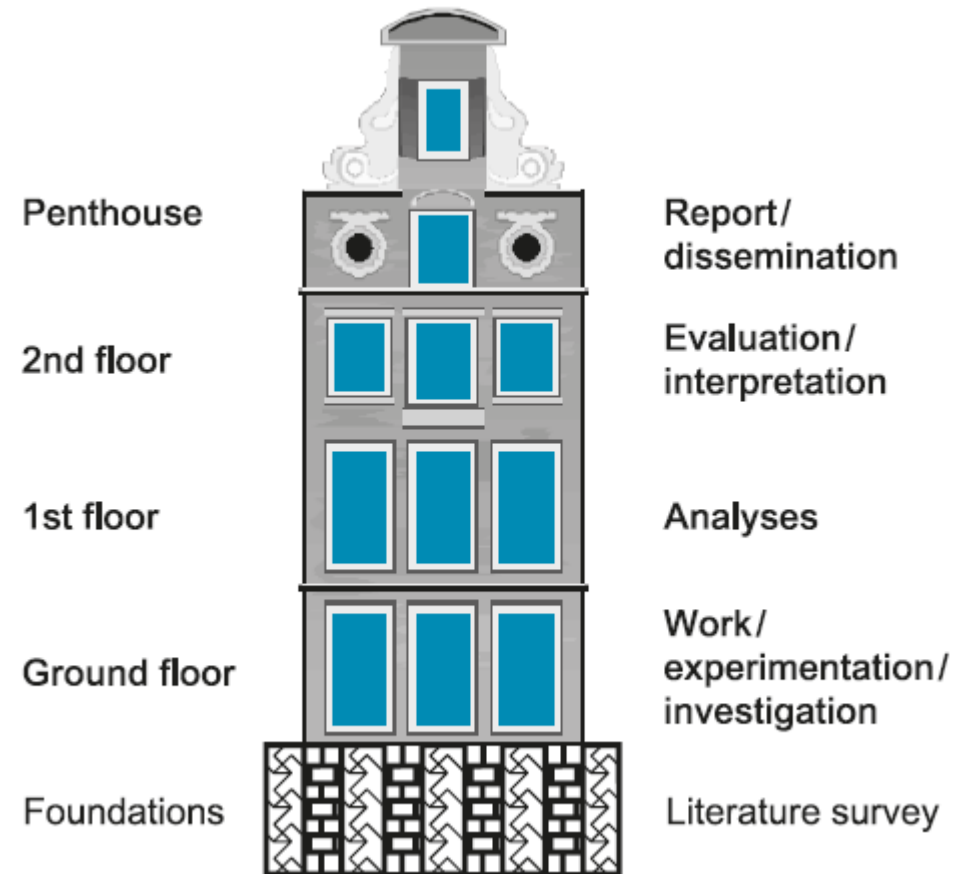
Learning objectives:

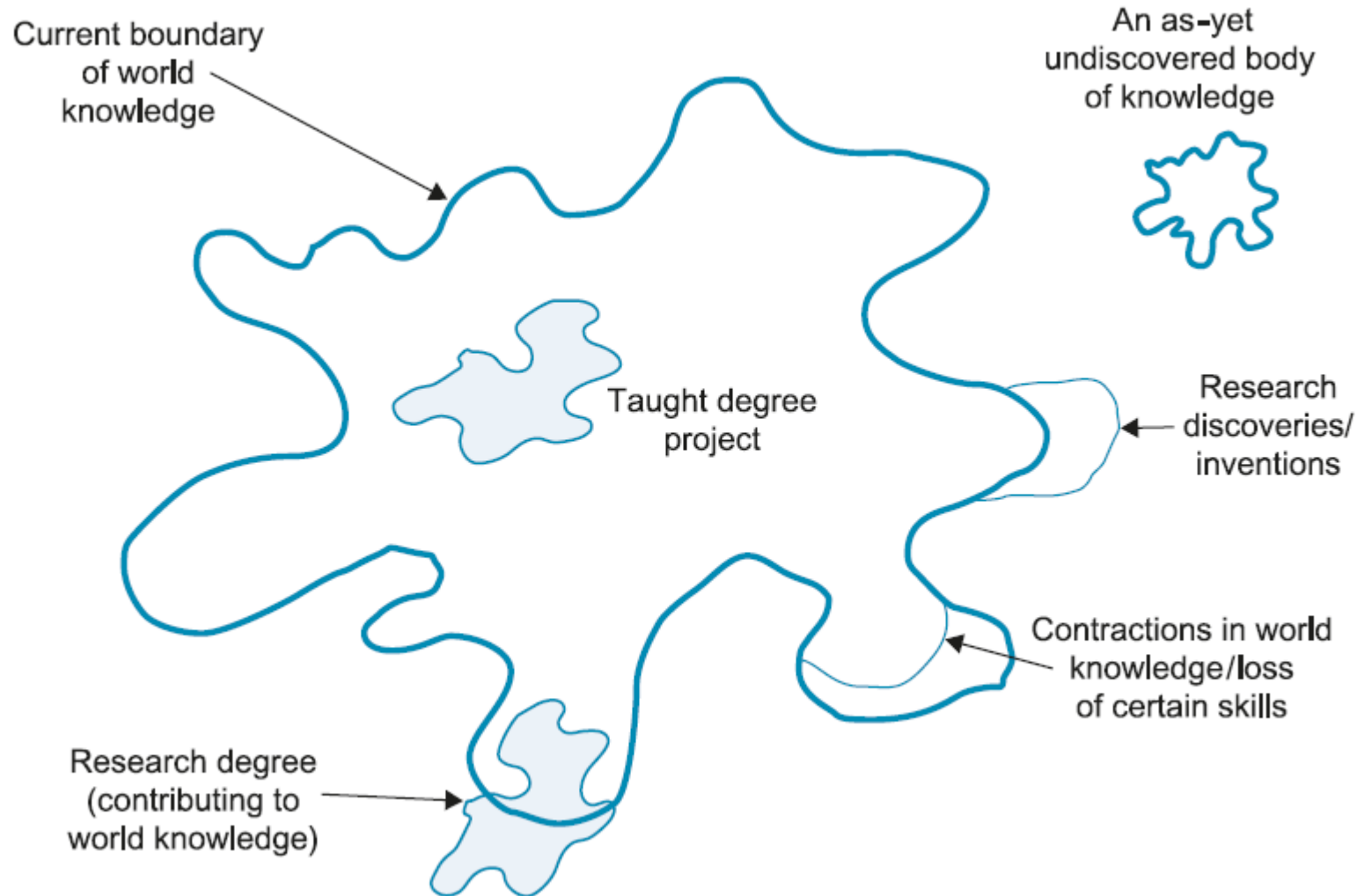When you have completed this chapter, you should be able to:

● Understand the process of literature surveys.

● Define and conduct a literature search.

● Manage information obtained during a literature search.

● Understand how to conduct critical evaluation.

● Write a literature review.

Justification

- It justifies your project
- It sets your project within context
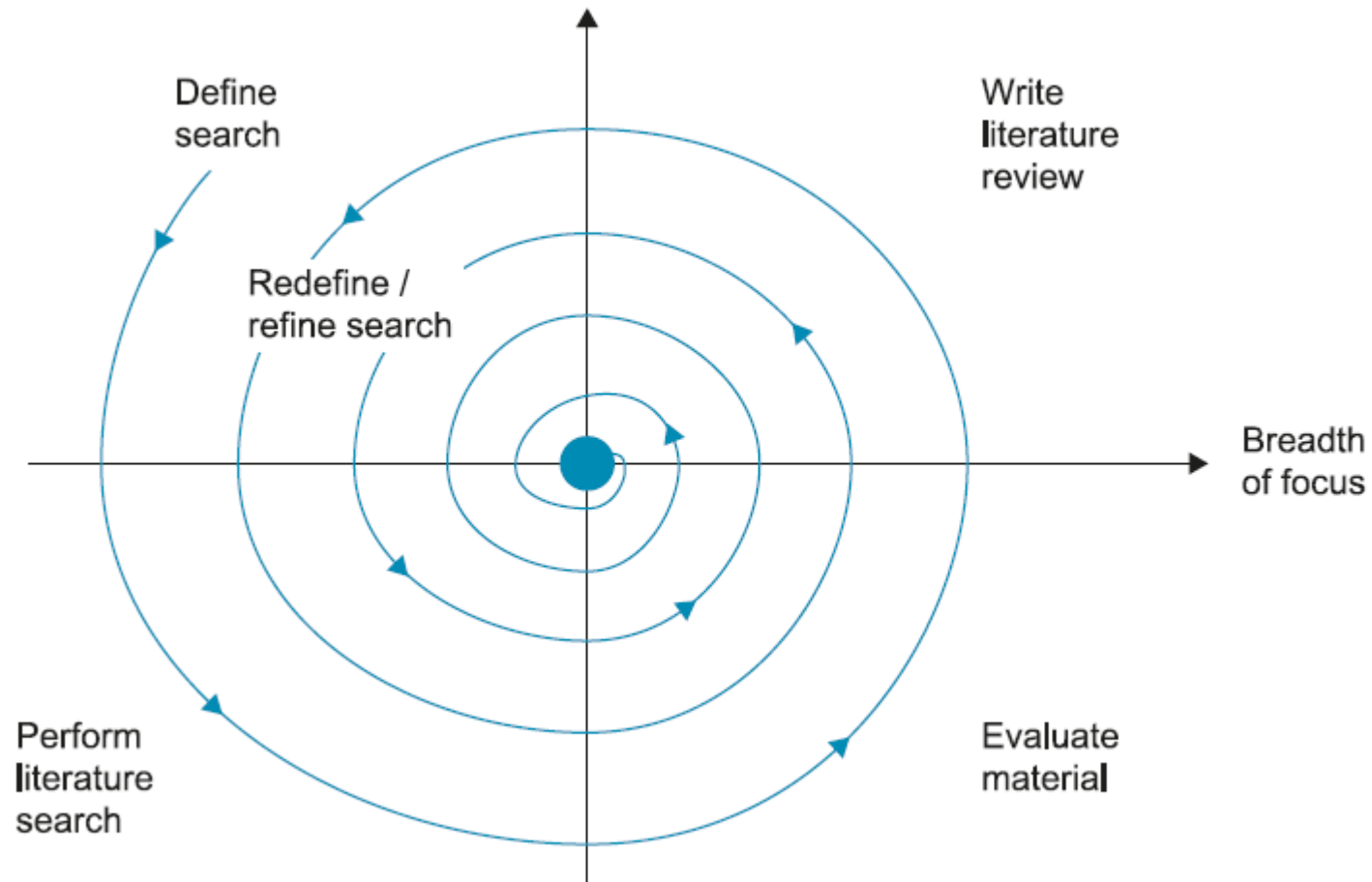- It provides other researchers with a starting point

Penthouse	Report/ dissemination
2nd floor	Evaluation/ interpretation
1st floor	Analyses
Ground floor	Work/ experimentation/ investigation
Foundations	Literature survey

Context

Current boundary of world knowledge

An as–yet undiscovered body of knowledge

Taught degree project

Research discoveries/ inventions

Contractions in world knowledge/loss of certain skills

Research degree (contributing to world knowledge)

لا يزال المرء عالماً ما دام في طلب العلم، فإذا ظن أنه قد علم فقد بدأ جهله – ابن قتيبة "

The literature survey process

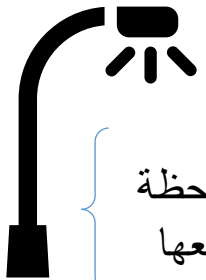# Literature searching

A literature search is a "*systematic* gathering of *published* information relating to a subject"
(University of Derby, 1995)

لا تأخذ من آراء فردية غير محكمة

خصص وقت كاف، اكتب ملاحظة عن مصدر المعلومة عند جمعها

Format of information

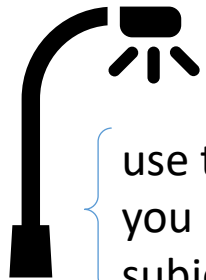|			
Books	Journals	Conference proceedings	Company reports
Theses	Manuals	Software	The Internet

Wikipedia (http://www.wikipedia.org/) is a useful starting point for tracing general information about a subject and identifying references. However, Wikipedia, like most sites on the Internet, is not academically refereed and you should use any information you obtain there
with caution.

Useful websites

- http://wok.mimas.ac.uk/

- http://www.acm.org

- http://liinwww.ira.uka.de/bibliography/

- http://www.computer.org

- http://ieeexplore.ieee.org

- http://www.springer.de/comp/

- http://dblp.uni-trier.de

- http://www.sciencedirect.com

- http://www.ingentaconnect.com

- http://www.neuron.co.uk/

- http://foldoc.org/

- http://scholar.google.co.uk/

- http://www.research.ibm.com/journal/sj/

Managing information

Collecting a large number of articles and books relating to your subject is all very well but, depending on the size of your project and the breadth and depth of your literature search, you may soon find yourself swamped under paperwork and books.

use the conceptual model you have created of your subject area

highlight key phrases, sentences and paragraphs

make brief notes on the front page of articles

Reference management tools

BibMe
(www.bibme.org)

EndNote
(http://www.endnote.com)

JabRef
(jabref.sourceforge.net)

Mendeley
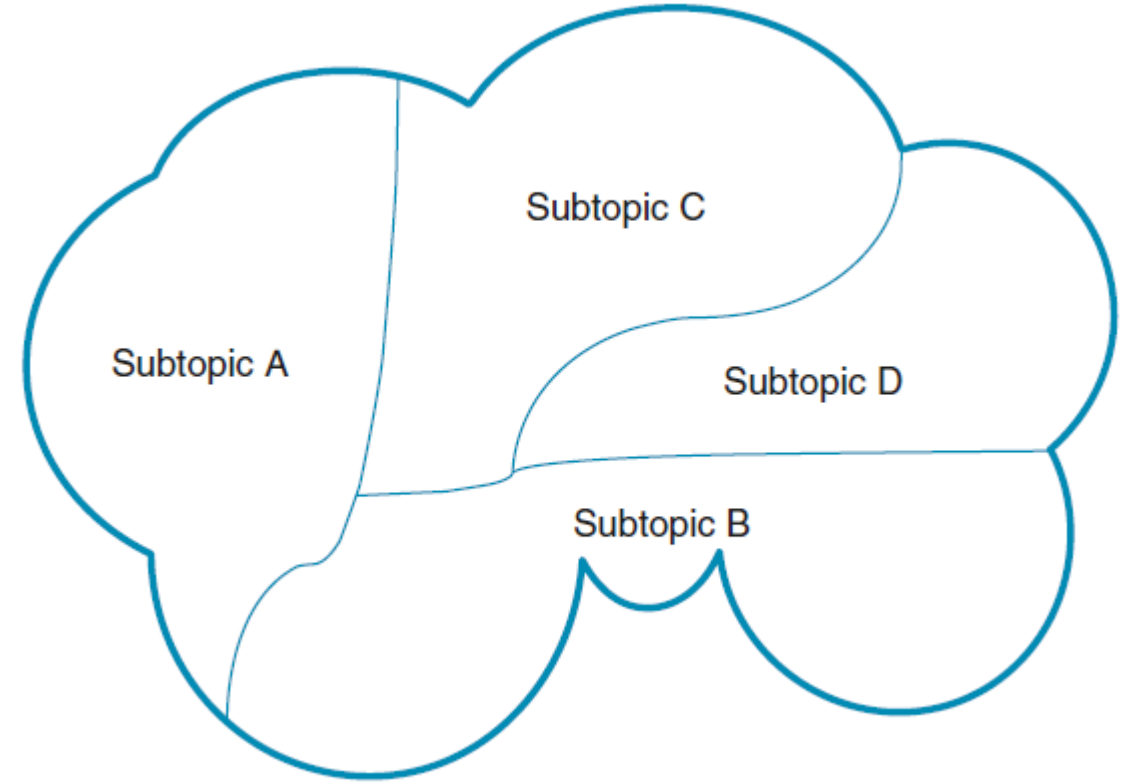(www.mendeley.com)

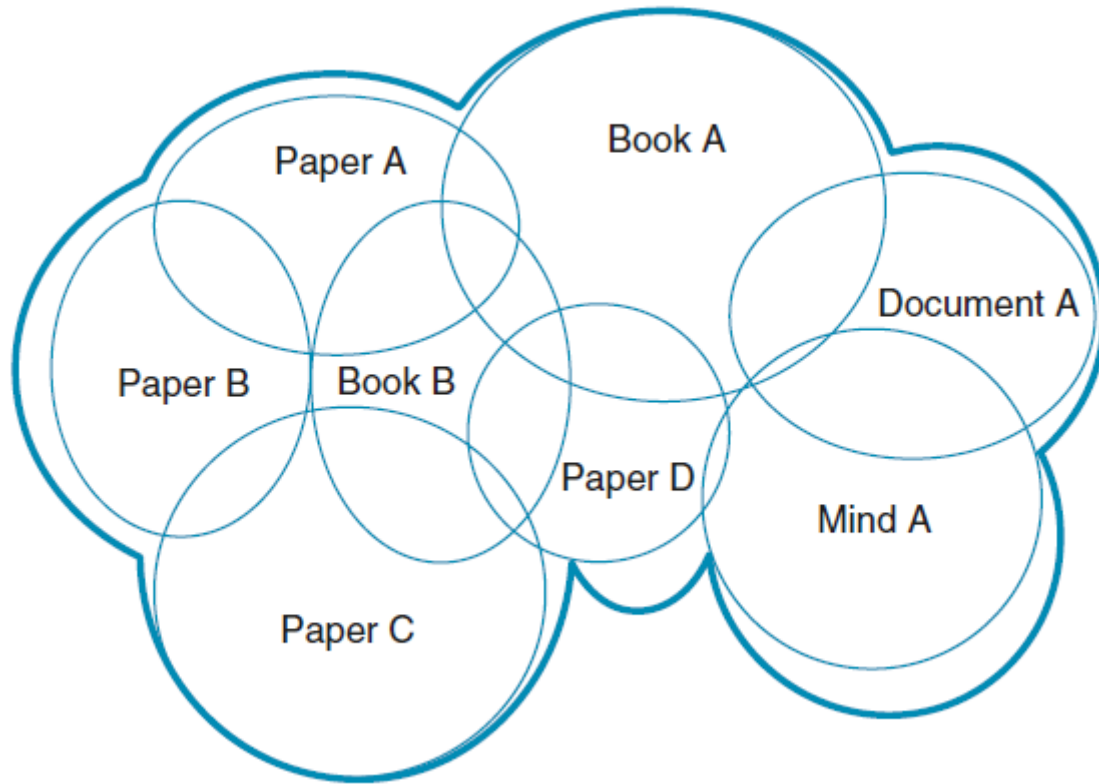Reference Manager
(http://www.refman.com/)

RefWorks
(www.refworks.com)

Critical evaluation

How do you critically evaluate collected articles?

- What kind of article is it – a review paper, an evaluatory paper, a theory paper, a practical paper, a case study, etc.?

- What can you gain from the article – ideas, techniques, useful quotes, etc.?

- Is the author well recognized in his/her field? Are they an authority in this area?

- What contribution is being made by the article?

- How does the article fit within its context?

- Do conclusions follow logically from the work that has been presented?

- Can you differentiate fact from unsubstantiated opinion?

- What do you feel about what has been written?

- Does the article contradict other viewpoints or support the status quo?

- What references does it use?

- Are there limits to what the author is suggesting?

- Can you use the results from the article in your own work?

Writing literature reviews

Writing literature reviews

1. arrange relevant literature in the field;

2. critically evaluate past and current research in the field;

3. identify your project within a wider context;

4. justify the existence of your project by identifying a gap in the field and showing how your project will fill that gap (particularly important at research degree level).

Summary

● A literature survey will help to <u>place your project within a wider context</u> and justify its presence within a particular field (or fields) of study.

● Your literature survey consists of two main components: the literature search (supported by an ability to manage the information you gather) and the literature review (which requires a critical understanding of material that you obtain). These components are performed repetitively over a period of time and (probably) in parallel with one another.

● Although you will eventually need to move on to the main investigation/development part of your project, your literature survey will continue to be performed throughout the lifetime of your project to some extent, as you refine and consolidate the information you gather ensuring that your project remains up-to-date.

Thanks