

Research Methods in Computing

(COMP09092)

Lecture 2

Literature Review
(or Technical/Background Review)

Importance of 'Literature' Review

Provides 'academic' underpinning or credibility for your work

Defines key terms and concepts

Identifies what previous work has been undertaken in the area

Provides basis for identifying and clarifying research questions

Constructs an argument that draws upon your own ideas and various sources to support those ideas

Importance of 'Literature' Review

Literature/technical review sets the scene for the **primary research** which in this module might be conducted as part of your Hons Project

Primary Research conducted after Literature Review based on key ideas/themes/questions from the 'literature'

Examples of primary research are: development and evaluation of software, research investigation into organisation(s) using interviews, surveys etc, simulations and experiments etc

Importance of Literature Review

The results of the literature review are to:

Increase your **understanding** of the **subject domain**

Provide a **structure** to your proposed research based around relevant themes or issues identified from the literature

Start from the **general** and work towards the **specific**, focusing on key issues/themes/concepts that relates directly to your proposed research

Literature Review

The **Literature Review** will provide you with the **CONTEXT** in which to plan, implement and present your own work

Your research area is very unlikely to be completely new/area not invented yet

You need to find out **what has already been done** and said and then **fit your proposed research into this overall collection of work**

Literature Review

Knowing what to look for is a chief problem

What work?

What fields?

What authors?

How much material?

What is lacking in your reading?

When do I stop?

Literature Review

Normally a two stage process:

1. **Identifying relevant subject matter**

Should have started this for your specification

2. Finding references to **authors** and getting hold of publications

Literature Review

Finding credible sources

*****Academic Journals** are the best because they have usually been peer reviewed

****Conference Papers/Book Chapters** can be useful but usually not as detailed or rigorous in being reviewed

****Books** can be useful but not “for dummies” type books

Literature Review

***? Trade Journals** - watch out for bias and sales pitches

****? Web Papers, Blogs** – watch out for bias, the credibility of author and whether it is just a meaningless, unsubstantiated ‘rant’

***? White papers (termed grey literature)** – complex issues presented in a concise manner – aimed at persuading - watch out for bias

Finding the Sources

Good starting point is the UWS Library

<https://www.uws.ac.uk/library/books-articles-more/books-e-books/>

You should have an **Athens** account

Search Library's Electronic Databases

<https://www.uws.ac.uk/library/books-articles-more/>


Look for databases in your subject area

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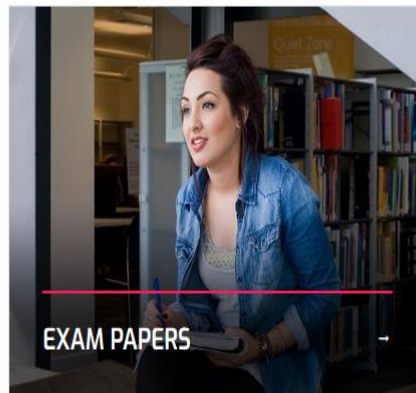
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Finding the Sources

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Ask Library staff if you do not have an Athens account or need help

You may only have access to some papers/resources on-campus

Finding the Sources

<http://scholar.google.com/> may help track down papers

Well known and respected academics/authors may have their own **web sites and blogs** – maybe useful source of material and list of publications

Look at respected societies' web sites (e.g. British Computer Society etc) can have useful reports, briefing papers etc

Sometimes a **google search** of authors and subject areas can be useful – however does bring up a lot of 'junk' as well

Finding the Sources

Backward Searching

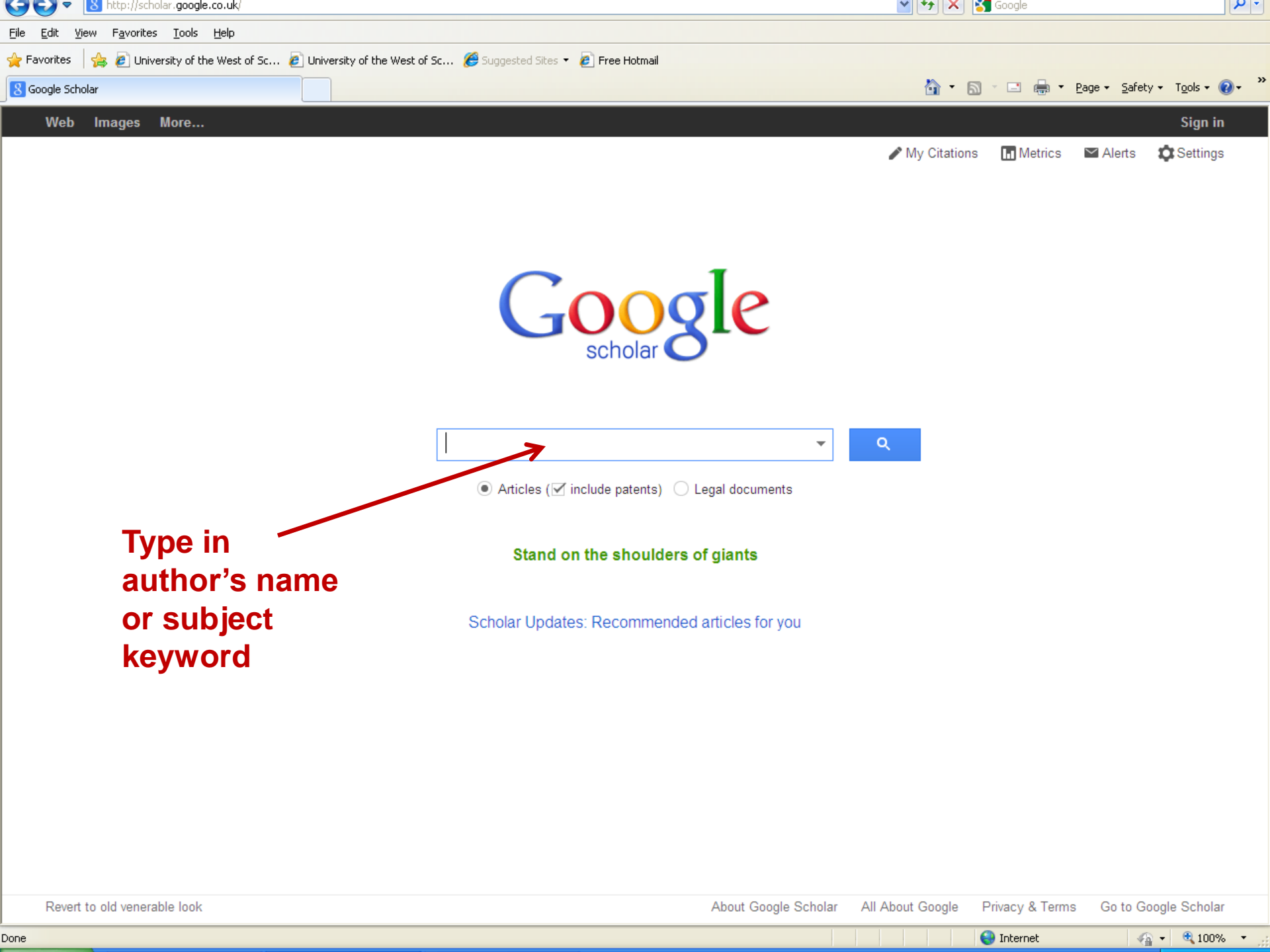
You can move backwards in time using an original article's bibliography or reference list

e.g. a 2011 paper makes reference to 2009, 2005 papers

Forward Searching

You can move forward in time using a **citation index** (e.g. from Google Scholar) – tells you other papers that reference the paper

e.g. a 2007 paper by author X is cited by a 2011 paper by author Y etc



Type in
author's name
or subject
keyword



☒ Articles (☒ include patents) ☐ Legal documents

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[Scholar Updates: Recommended articles for you](#)

Mark Stansfield - Google Scholar

http://scholar.google.co.uk/scholar?hl=en&q=Mark+Stansfield&as_sdt=1%2C5&as_sdt=

Mark Stansfield - Google Scholar

Web Images More...

Google

Mark Stansfield

Scholar

About 7,620 results (0.09 sec)

My Citations

Articles

Legal documents

Any time

Since 2013

Since 2012

Since 2009

Custom range...

Sort by relevance

Sort by date

☒ include patents

☒ include citations

☒ Create alert

[PDF] An Investigation into Issues Influencing the Use of the Internet and Electronic Commerce among Small-Medium Sized Enterprises.

M Stansfield, K Grant - J. Electron. Commerce Res., 2003 - csulb.edu

ABSTRACT Since small-medium sized enterprises (SMEs) play a vital role within many major economies throughout the world, their ability to successfully adopt and utilize the Internet and electronic commerce is of prime importance in ensuring their stability and ...

Cited by 81 Related articles All 3 versions Cite More

A quasi-experimental study of three online learning courses in computing

TM Connolly, E MacArthur, M Stansfield... - Computers & ..., 2007 - Elsevier

This paper presents the results of a 3-year quasi-experimental study of three Masters courses in computing. The purpose of this study was to investigate the extent to which the teaching and learning of these courses were enhanced by being developed and delivered ...

Cited by 63 Related articles All 8 versions Cite

An application of games-based learning within software engineering

TM Connolly, M Stansfield... - British Journal of ..., 2007 - Wiley Online Library

Abstract For some time now, computer games have played an important role in both children and adults' leisure activities. While there has been much written on the negative aspects of computer games, it has also been recognised that they have potential advantages and ...

Cited by 60 Related articles All 7 versions Cite

[PDF] Enhancing student performance in online learning and traditional face-to-face class de

M Stansfield, E McLellan... - Journal of Information ..., 2004 - informingscience.org

Executive Summary Within many educational institutions across the world, the delivery of undergraduate and postgraduate courses is facilitated by online learning technologies. The development and transformation of traditional academic courses for online learning ...

Cited by 52 Related articles All 15 versions Cite More

[CITATION] Action research as a framework for IS research

F Stowell, D West, M Stansfield - Information Systems: an emerging ..., 1997 - McGraw-Hill

Cited by 45 Related articles Cite

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List of papers

Click on list of papers that have cited this reference

Filtering References

To help filter out the less valued references and focus on key papers:

Use **author's name** and journal title as indicator of quality – you should start to recognise well regarded authors

Use the **title**, **keywords** and **abstract** as a guide as to the relevance of the paper to your Hons Project

Skim read the paper, concentrating on the **abstract**, **introduction** and **conclusions** – helps identify those papers that might be worth reading in more detail

Taking Notes

Good note taking is a key skill of **good research**

Record information about a paper or report by selecting:

- **Keywords** (ones that mean something to you)
- A **mini-abstract** in your own words (a few sentences)

When you take notes, make sure that you **record at least enough information** to be able to put it in your references list when you need it

Taking Notes

Mapping Papers to concepts using a matrix

| Articles | Concepts | | |
|------------------|----------|---|---|
| | A | B | C |
| Smith (2012) | * | * | |
| Jones (2014) | | | * |
| MacDonald (2011) | | * | |
| Henderson (2015) | * | | * |

Critical Reading

It is important that you try and develop your ability to read and **evaluate critically** what the authors of papers are saying

As you read look for **alternative or conflicting opinions or arguments**

You may see '**schools of thought**' about an area

You may see certain **themes** appearing

You may see **issues and problem areas** being identified by various authors

Critical Reading

These opinions, arguments, schools of thought, themes, issues and problem areas can help you **structure, classify and present** the topics under discussion

It is worth trying to **record these now** as they will help you present a valid and interesting view of the field you are researching

This can help make your Hons Project a thought-provoking and interesting read

Critical Reading

Be careful not to jump to **criticise authors' work**

Take care to ensure that you have **not taken things out of context or not fully understood the area enough**

Make sure you have **enough evidence to justify and back up claims or criticisms**

It is useful to **look for other respected authors** who have criticised an area and then quote or make reference to them to justify and build up your argument

It is good to have opinions on an area – **but be able to justify them**

Critical Reading

Examples of 'information components' that can be expected to be found from the literature include:

- Concepts
- Evidence
- Standpoints or arguments
- Definitions
- Problems
- Ways of doing or thinking
- Motives or justifications
- Styles or techniques

Critical Reading

You will need to express the essential insights that you have gained from the literature

- What is your preferred perspective/argument?
- Where would you like to see further development of knowledge on this topic?
- How is your proposed project going to add to the stock of knowledge in this area?

Writing Up the Literature Review

The reader does not want a list of what each source says – they want to hear what **you** think are the important issues that are to be found in the literature

They are looking for you to present the **arguments** in a **sensible and well-structured way**

The structure should help them understand the **context** of your work as well as get a clear understanding of the **main points, issues, arguments, difficulties, opinions** etc

Writing Up the Literature Review

AVOID simply presenting a list of quotes (even if they are well referenced) with little to tie the contents of the quotes together

Instead try and **cluster** part of the literature review together under **headings** which relate to different **themes, issues** etc that you find in the literature

In this way you are picking out the **area(s)** that you think are important to **your Hons Project**

Writing Up the Literature Review

At the end of the Literature Review you should be in a position to say:

“So this is what I am going to investigate in my primary research or what I am going to develop through my prototype and you’ve read the arguments to explain why I am doing this”

Writing Up the Literature Review

DO NOT cut and paste findings or other peoples' work into your Literature Review

Think of ways in which you can **present existing work**

For example you could use **tables** to compare and contrast certain key points or **diagrams** to illustrate concepts etc

Writing Up the Literature Review

Try and **control** the secondary research and literature review rather than it controlling you!

As your knowledge and understanding of the area grows you might have to decide **what is irrelevant and leave aside materials** that you have spent time collecting and reading

Writing Up the Literature Review

To summarise:

1. Make sure you **structure** your literature review in a way that is suitable to your proposed research project
2. Let **your voice** come through – show that you are understanding, evaluating and assessing the materials – giving your **informed opinion** is important, but back up your views with evidence

Writing Up the Literature Review

A good literature review should:

Set the scene for the particular area you are interested in and conveys to the reader **a confident familiarity with the broad area** and **insight into how the field might be taken further**

Referencing

See Handout on **Harvard Referencing** that you should follow very closely