




# Reading and Reviewing Literature and Writing Reports

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# CS Project Reports

## General Information

- Go-to place for up-to-date information on projects
  - Formatting requirements
  - Length requirements
  - Submission methods and dates
  - Etc...etc...
- <https://www.cs.york.ac.uk/projects/>
- Please double-check this often...
  - (including checking the information given in this lecture)

## Length of Project Reports

Project Type	Word Limit	Page Limit
BSc/BEng	12,000 words	45 pages
MEng, 60-credit MSc, PG Diploma	16,000 words	55 pages
80+ credit MSc	20,000 words	70 pages

## Content of Project Reports

- Precise content will vary according to the research topic, but a good general guide is:
  - Research hypothesis
  - Elucidation of the problem and objectives of the project
  - In-depth investigation of the context and literature and, where appropriate, other similar projects/products
  - Clear description of the stages of the lifecycle of the project
  - Description of how verification and validation were applied at these stages
  - Description of the use of tools to support the development process
  - Critical appraisal of the project, including rationale for any design/implementation decisions, lessons learned during the project, evaluation of the project outcome and process of production
  - References

## Project Balance (very rough guide, based on BSc length)

Section	Approximate length in words
Abstract, ethics statement etc	500
Table of contents	Does not count
Introduction	1000
Literature review	3000
Problem description/analysis	1500
Design and implementation	2500
Results and evaluation	2500
Conclusion	1000
References	Does not count
Appendices	Do not count



# Reviewing Literature

## Why ...

- ... do you need to read and review literature?
  - To show that you know what is happening in your field
  - To justify why your work is interesting or important
  - To establish the theoretical framework/context for your work
  - To defend your choice of methodology
  - To avoid repeating previous researchers' mistakes
- Literature review is the *springboard* for your project

## What ...

- ... is academic literature?
- Books
  - Textbooks
  - Books of essays
    - Conference proceedings
  - Handbooks/readers
- Academic journals
  - Review articles
  - Research reports



The Library, Trinity College Dublin

## How ...

- ... should you read?



Skimming



Scanning



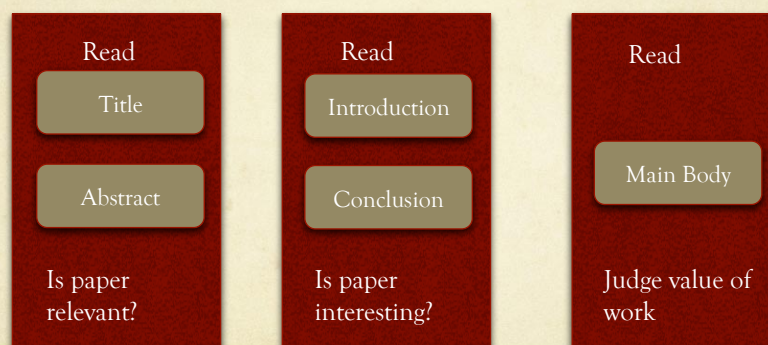
Detailed reading

## What ...

- ... are you looking for when you read?
  - Strengths and weaknesses
    - in the method, in the argument, in the results ...
  - Significance of the contribution
  - Limitations or flaws
    - in the evaluation ...
- Consider both the particular studies in the paper and the line of enquiry as a whole

## How ...

- ... should you read a paper?





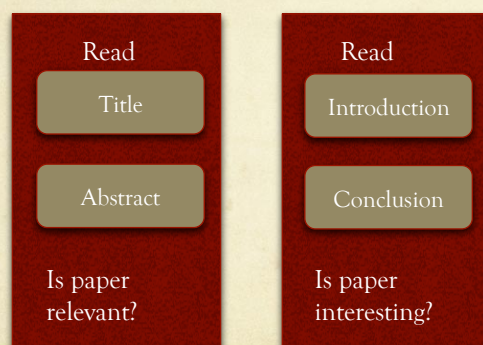
## What should you ask ...

- ... to assess if a paper is relevant?
- Start by comparing the paper's similarities and differences to your proposed work:
  - Is the work from a similar domain?
  - Does the work adopt a similar methodology?
- If yes to either of these:
  - It's worth reading more ...



## How ...

- ... should you read a paper?



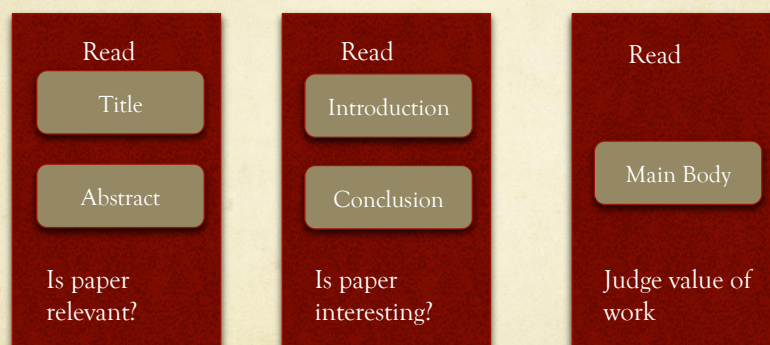
## What should you ask ...

- ... to judge if the paper is interesting?
  - Is the problem clearly defined?
  - Are the results presented new?
  - How convincing is the argument?
  - What angle are the authors coming at the problem from?
  - What is the significance of the work?
  - Are there any limitations to the work?
    - If so, what?



## How ...

- ... should you read a paper?





## What should you ask...

- ... to judge the value of the paper?
- How large a sample was used?
- How were the results generated?
  - Was the method appropriate?
  - Was the method correctly applied?
- Are generalisations justifiable?
- What are the underlying assumptions?
  - Are these valid? Applicable to your research?
- Can you attack the argument anywhere?



## Referencing

## Why include references?

- To show that you have read...
- To show what you have read ...
- To enable the reader to locate the source materials that you mention...
- To acknowledge your sources, and avoid plagiarism...

## IEEE Style

- Detailed guide at <http://www.york.ac.uk/integrity/ieee.html>
- Key points:
  - References numbered in [ ] as sources are introduced
  - Reference list structured according to 'order of appearance' not alphabetical
  - Format (for a journal paper):  
 [1] A. Name, "Title of the paper" *Title of the Journal*, vol. 123, no. 4, pp. 567-89, Month Year (4 figures)  
 (format for other source types in the detailed guide)
- **Don't** reference by hand
  - Tools: Mendeley, Zotero, EndNote, BibTeX, Bookends, CiteULike, Papers, Sente



## Incorporating References

“Researchers have played music to athletes both prior to [1] and during [2,3,4] sporting activities.”

### References

[1] Bishop et al. 2007

[2] Waterhouse et al. 2010

[3] Simpson and Karageorghis 2006

[4] Edworthy and Waring 2006

This man ...



... did IEEE referencing by hand.

Gustave Courbet, 'Le Désespéré' (Self Portrait: The Desperate Man), 1843-1845, Private Collection



# Literature Review

## What is the Literature Review?

- Selective analysis of existing research
  - Motivates your work
  - Helps to refine your ideas
  - And provide a basis for the reader to evaluate your contribution to the field
- What should it include?
  - Summary of broad issues to contextualise your research
  - Typical approaches to the problem
    - Or related problems
  - Studies that overlap with yours
  - Studies that directly inform your work

## Literature Review

- The Literature Review is a discussion (or argument)
  - Should be written in prose with an overall “story”
  - Structured so that it is clear how the references you include fit the story
- Be selective with your material
  - You can’t include everything...
- Present an argument
  - Does the paper add to the argument?
  - Or refute it?
  - Use references to support the argument
- Make sure you include the seminal works in the field

## NB...

- The Chair of Examiners in CS has recommended that all supervisors of 3<sup>rd</sup>- and 4<sup>th</sup>-year projects ask their students to produce a draft Literature Review *by the end of the Autumn Term*
  - Means you get a chunk of your project drafted early
  - Supervisor picks up missing important references
  - And any issues with writing...
- Even if your supervisor does not ask for this, I recommend you get it under your belt early...

## Take-Home Messages

- Only read the whole of relevant, interesting articles
- Learn to critique and judge the value of work
- Make notes as you read and save with sensible filenames
  - Recommendations for notes/review technique in Anna Bramwell-Dick's 'Reviewing Literature Exercise' (on the VLE)
- Use software to manage your references
  - Throughout the project (not a bolt-on)
- The Literature Review should be written as discursive prose