

CompSci 725
Completing your Written Report

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Clark Thomborson
University of Auckland

Woodford's Steps 1 to 6

1. What is the right time to publish?
5pm on Friday 20 October 2017!
2. What question has been asked, and what are the conclusions?
Your topic.
3. What is the most suitable journal?
4. How are the findings related to the existing body of knowledge?
This is your critical & appreciative understanding!
5. Write the title and synopsis.
Done! (?)
6. Reread the “Purpose and Scope” in the chosen journal.
Review my requirements...

Woodford's Steps 7 to 12

7. Read the Instructions for Authors.
8. Decide on the basic form of the article.
9. Stock the section reservoirs.
10. Construct the tables and figures.
11. Construct the topic outline.
12. Construct the sentence outline.

Woodford's Steps 13 to 18

13. Think of the article as a unit; write the first draft continuously from beginning to end.
14. The Introduction: keep it short.
15. Construct the list of references as you go along.
16. Materials and Methods section(s): include the right amount of detail.
17. Results section: allow the data to speak for themselves.
18. Discussion section: watch for symptoms of megalomania.

Woodford's Steps 19 to 25

19. Are major alterations necessary?
20. Polishing the style.
21. Give drawings to Illustration Department.
22. Write title and abstract in final form.
23. Reread the journal's instructions to authors before having the manuscript typed.
24. Departmental review. (Ask a friend to read and comment.)
25. Shelve the manuscript for a while.

Source: F. Woodford, *Scientific Writing for Graduate Students*, Rockefeller University Press, New York, 1968. (Out of print, but available in hardcopy in our University's library.)

“Stock the Section Reservoirs”

- Why not... organize your notes before starting to write?!
- Use one page per section, plus references.
- For each item, ask...
 - Is it necessary? (Refer to your synopsis to decide. Also think about your audience: what does your reader need to know?)
 - Is it in the right section(s)?
- Do you have all necessary items?

“Construct the Topic Outline”

- I suggest you have four to five sections, two to five “major points” per section, and two to five “sub-points” per major point.
- Your topic outline should have approximately $4*3*3 = 36$ entries.
- Take the time to cut it back to size!!!
- You’ll write one paragraph per sub-point, plus one paragraph to introduce each major point, and perhaps one paragraph to conclude each major point.

“Construct the Sentence Outline”

- This step is optional but highly recommended, for the beginning writer.
- Write one complete sentence per item in your Topic Outline.
- Each entry in your Sentence Outline may be used as a “thesis sentence” for a paragraph in your paper.

“... Write the First Draft Continuously ...”

- *Unity* is a primary objective.
- Don't worry about grammar in a first draft.
- Let it flow!
- Write something on each of your essential points, sequentially, paying attention to transitions and logic.

Moral Rights of an Author

- In many (but not all!) legal systems, an author has
 - The “**right of integrity**”. An author’s words must not be mutilated or distorted (especially if this would damage the author’s honor or reputation).
 - The “**right of attribution**”. The true author has the right to have his/her name on the work, and non-authors may not make false claims of authorship.
- These rights are commonly observed in academic ethics, and may be enforced by contracts.
- As a student at the University of Auckland, you must honour other authors’ rights of **integrity** and **attribution**, especially avoiding **false claims of authorship**.

Other Moral Rights

(not mentioned in Berne Convention)

- “The *right of disclosure*: the author has the final decision on when and where to publish...
- “the *right to withdraw or retract*: ... the author may purchase at wholesale price all of the remaining copies of the author’s work, then prevent printing of more copies...
- “the *right to reply to criticism*: ... a right to reply to a critic and have the reply published in the same place as the critic’s expression.” [Standler, “Moral Rights of Authors in the USA.” Web document created 5 April 1998, modified 29 May 1998. Available: <http://www.rbs2.com/moral.htm>, August 2006.]
- *rights to anonymous and pseudonymous publication*. [Cotter, 76 *N.C.L. Rev.* 1, Nov. 1997. Available: <http://cyber.law.harvard.edu/metaschool/Fisher/integrity/Links/Articles/cotter.html>, March 2001.]

Academic Honesty

- Our departmental and University guidelines are available on the web:
 - <http://www.cs.auckland.ac.nz/administration/policies/>
 - <http://www.auckland.ac.nz/uo/about/teaching/plagiarism/plagiarism.cfm>
- Which of the following actions could be justified (or be considered unjustified) with respect to a “right to integrity” or a “right to attribution”?
 - “using the work of others in preparing an assignment and presenting it as your own...”
 - “Getting help in understanding from staff and tutors.”
 - “Making up or fabricating data.”
 - “Submitting the same, or a substantially similar, assignment that you have done for assessment in more than one course.”
 - “Assistance (professional or unpaid) with a writing project in order to improve the expression of your own ideas...”

Co-authorship Vs. Assistance

- Assistants may:
 - Correct your spelling and grammar;
 - Warn you of stylistic errors (e.g. in your Bibliography, citations, or direct quotations);
 - Identify and briefly discuss errors in your logic, technical understanding, organisation and presentation of your paper.
- Co-authors may:
 - Rewrite paragraphs or sections, redraft figures and tables;
 - Correct errors in logic, understanding, organisation and presentation;
 - Add to your paper’s “technical content”.
- Acknowledge your assistants, briefly and generously, just before your Bibliography. It will reflect well, both on you (for your honesty and graciousness) and on them (for their ability and effort).

When to Use Direct Quotes

- “Use a Quotation:
 - to emphasize a point you’ve made.
 - to provide an example.
 - to show an author’s intention.
 - to show how historical figures spoke or thought.”

[U of Richmond Writer’s Web, “Effectively Using Direct Quotations”, undated. Available <http://writing2.richmond.edu/writing/wweb/dq.html>, August 2006.]
- Which (if any) of these reasons support my decision to directly quote the Writer’s Web on this slide?
- My advice for technical writing:
 - You may use a direct quotation for definitions and lists.
 - Don’t quote someone else’s explanation unless you analyze it in your text.
 - Use paraphrase and summary much more often than direct quotation.

Quoting a Definition

The following paragraphs appear in J McHugh, “Intrusion and intrusion detection, *IJIS 1:1*, 2001, 14-35. This is an appropriate style for an extended direct quotation. Note that the quoted material is delimited clearly (by indentation) even though no quotation marks are used.

Although there are earlier discussions of the issues associated with malicious users, James P. Anderson’s 1980 report “Computer Security Threat Monitoring and Surveillance” [5] set up the first coherent framework for an investigation of intrusions and intrusion detection. We will use the following definitions, given by Anderson in this paper, supplementing them later, as necessary.

- Threat: The potential possibility of a deliberate, unauthorized attempt to:
- (a) Access information
 - (b) Manipulate information
 - (c) Render a system unreliable or unusable
- Risk: Accidental and unpredictable exposure of information, or violation of operations integrity due to malfunction of hardware or incomplete or incorrect software design.

Vulnerability: A known or suspected flaw in the hardware or software design or operation of a system that exposes the system to penetration or its information to accidental disclosure.

Attack: A specific formulation or execution of a plan to carry out a threat.

Penetration: A successful attack; the ability to obtain (unauthorized) access to files and programs or the control state of a computer system.

Note that threat class (c) includes what are commonly called “denial of service” attacks today. Attacks that misappropriate computing resources also fall into this category.

Anderson classifies threats as shown in Fig. 1.

“Effectively Using Direct Quotations”

U of Richmond Writer’s Web

<http://writing2.richmond.edu/writing/wweb/dq.html>

- This is a guide to academic style, showing you how to
 - Make clear attributions to the true author,
 - Avoid making false claims of authorship for yourself, and
 - Adjust the author’s words, to suit the context of your writing.
- A direct quotation is an exact copy of another person’s words.
 - You must **cite** the true author.
 - You may **omit** words before, after, or in the middle of the quoted passage. All changes must be clearly marked.
 - You may **alter** words, by using square brackets:
“[Nero] was the maddest of them all.” (Smith 32)
 - You must **avoid** “**misrepresenting** the ... author’s opinion.”

Paraphrasing

“Simply put, PARAPHRASING is putting an author’s work into your own words. ... While not plagiarism if done right, it would show little or no creativity and receive an appropriate grade.” [M Spears, “Plagiarism Q&A”. Available <http://www.ehhs.cmich.edu/~mspears/plagiarism.html>, April 2003]

- Here’s my paraphrase: You may show a little creativity by rewording (without plagiarizing) part or all of another paper.
- You can create an appropriate paraphrase, by considering
 - what your reader is likely to know already and
 - what your reader needs to know, in order to understand your argument, or point of view. (So ... you must have a point of view!)
 - See <http://www.indiana.edu/~wts/pamphlets/plagiarism.shtml> for some more explanation.
- You can show quite a bit of creativity by appropriately paraphrasing several authors, to support a novel point of view.

Paraphrasing a Figure

The phrase “after [5]” in the caption of a figure in McHugh’s article (cited on an earlier slide) indicates that this is a paraphrase rather than a direct quotation. If McHugh had been directly quoting a figure, a more appropriate caption would have been “General cases of threats [5].”

	Penetrator Not Authorized to use Data/Program Resource	Penetrator Authorized to use Data/Program Resource
Penetrator Not Authorized Use Of Computer	Case A: External Penetration	
Penetrator Authorized Use Of Computer	Case B: Internal Penetration	Case C: Misfeasance

Fig. 1. General cases of threats (after [5])

Summarization

- A summary is “a brief statement giving the main points” [Thorndike-Barnhard Dictionary, 1955].
- One technique for summarization is to write one sentence for each paragraph (or section) in an article.
- An extended form of the “right to integrity” protects the “artistic impression” of a work. So ...
 - You might seek the original author’s consent before publishing a new **artistic** work that includes a summary, paraphrase or other adaptation of another poem, picture, or other work of art.
 - Academic writings are not considered to be “artistic”: you **don’t** need an academic author’s consent to summarise or paraphrase their work!

Woodford 14: The Introduction

- Keep it short!
- Woodward suggests three parts:
 1. State the general field of interest.
 2. State the main findings of others that will be challenged or developed.
 3. Specify the question to which the current paper is addressed.

Papadakis' "Why and What(4)"

Introductions

- *Why* is the topic of interest?
- *What (1)* is the background on the previous solutions, if any?
- *What (2)* is the background on potential solutions?
- *What (3)* was attempted in the present effort (research project)?
- *What (4)* will be presented in this paper?

Source: E. Papadakis, "Why and What for (Four): The Basis for Writing a Good Introduction", *Materials Evaluation* 41, 20-21, Jan 1983.

Woodford 15: “Construct the List of References As You Go Along”

- Woodward (and I) are offering advice, similar to “make backups of your files,” that could help you avoid painful problems.
- I suspect you’ll have to learn this lesson “the hard way”...but just in case you’re listening:

Maintain full and accurate notes on your bibliographic sources!

16. Materials and Methods Section(s)

- You probably **won't** be reporting on the results of an experiment you have conducted.
- You probably **will** be reporting on other peoples' articles, describing their experience with systems they have built or tested.
- You **should** explain the relevant facts about other peoples' systems and tests.
- You **might** apply a different “analytic method” to the system under test in some article you have read. If so, you should explain this method.

17. Results Section

- If you haven't yet explained “how” you are analysing your system, this question should be addressed first.
- Your results **must** be explained in a way that shows your critical and appreciative understanding of your material.
 - Do **not** write this section by a “cut-and-paste” or paraphrase of other people's conclusions!
- Do **not** compare your conclusions to other peoples' conclusions, in this section. This can be confusing.
 - You should sketch **other people's conclusions** in your introduction.
 - You should compare/contrast **other people's conclusions** with **your results** in your Discussion section.

18. Discussion Section

- “This section is often the heart of a paper...”
- **Don't** include too much detail!
 - Your reader is probably not interested in all the subtleties of your understanding.
 - Keep it simple.
- Controversial issues make for interesting reading.
 - Be lucid, fair, and seek to explain rather than refute.
 - Other authors have other points of view...
- Speculation should be firmly grounded in evidence you have presented elsewhere in your paper.

19. Major Alterations?

19.1 Logical Flaws

- Avoid confusing facts with opinions or inferences.
 - Facts should be supported by reference or observation;
 - opinions are rarely appropriate;
 - inferences should be supported by logical reasoning that is apparent to your reader.
- Guard against misunderstandings of language,
 - e.g. by defining terms as precisely as possible.

[Trelease, S.F. *How to Write Scientific and Technical Papers*, M.I.T. Press, Cambridge, Mass., 1969.]

Other Major Alterations?

19.2 Correct any misquotations.

- *Precision*: Avoid any suspicion of misinterpretation by
 - quoting precisely
 - showing additions by [] and deletions by ...
 - setting quotes in an appropriate context.
- *Logic*: Be wary of self-deception and wishful thinking.
- *Clarity*: Be sure that every quotation is relevant to the point under discussion.

Other Major Alterations?

19.3 Re-examine the order of presentation

- Will the function of each section be clear on its first reading?
- Did you realise, when writing your first draft, that a re-organisation is necessary?

19.4 Combine or simplify tables where necessary.

- Is there “unnecessary information” in your tables?
- Will your reader be enlightened or overwhelmed?

20. Polishing the Style

The following stylistic elements are required.

- *Logic*: rational construction of each sentence and paragraph.
- *Precision*: technical accuracy and consistency.
- *Clarity*: ready comprehensibility.
- *Directness*: steady movement toward “the point” you’re making in your paper.
- *Brevity*: no unnecessary detail.

Not required: *grace, mystery, urbanity, wit, lightness, word-music, rhythm, ...*

22.1 Write Title in Final Form

- The title should not be “too long”.
 - No unnecessary words.
 - No more than 10 words (64 ASCII bytes).
- The title should not be “too short”.
 - Add qualifying words so that the reader won’t expect much more than you actually deliver.
 - The title “Security in Java” would be appropriate for a paper that surveys a wide variety of security issues arising in a wide variety of uses of the Java language.
 - The title “Copy Protection for Java Applets” would be appropriate for narrower paper.

22.2 Write Abstract in Final Form

- Your abstract will “fill the gap” between a 10-word title and a 10-page paper, for any reader who wants more than 10 words but less than 10 pages.
- One hundred words is an appropriate length.
- Your abstract should
 - Answer the most pressing “questions” raised by your title.
 - Summarise the “issues” and “answers” that will be discussed at length in your paper.

Steps 23 and 24

23. Reread the journal's instructions to authors before preparing your final draft.

24. "Departmental review"

- Ask a colleague to read your paper and comment critically and appreciatively.
- Their gift: a "fresh and unbiased reading" that will reveal some faults (and successes) in your logic, precision, clarity, directness and brevity.
- Don't expect anyone to "write your paper for you" or to "solve your problems"!

“Shelve the MS for a While”

- Allow yourself a generous amount of time (a few days or a week) for “one last revision.”
- You should plan to complete by the deadline: 5pm Friday 20 October 2017!
- However I will extend the submission deadline by a week, to **5pm Friday 27 October 2017**, to any student who requests this extension in writing or in email, **prior to** the submission deadline (5pm Friday 20 October 2017).
- Submissions must be online to Canvas.
 - Please submit in pdf, docx, or odt format.
 - Filesize < 5 MB.
- *If* you want me to post your written report (or a later version of it) on the class website, you must ask me by email.