

Some Scholarly Communication Guidelines*

by Paulo Cortez



Teaching Report

Department of Information Systems

Engineering School

University of Minho

Guimarães, Portugal

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Abstract

Scholarly communication describes the process of sharing and publishing of research findings. This report provides some useful guidelines for improving a key scholarly communication aspect: the writing of scientific documents (e.g. journal articles, conference papers, Doctor of Philosophy thesis). The goal is to have a written text to complement both a two hour seminar, given under the same subject and that was presented to Computer Science students, and the “Scholarly Communication” course unit, lectured for Information Systems students. For further reading purposes, this report includes an additional list of references related with other aspects of scholarly communication (e.g. designing scientific presentations).

Contents

Abstract	iii
List of Acronyms	v
1 Introduction	1
2 Scholarly Guidelines	3
2.1 Know What are the Scholarly Publication Types	3
2.2 Be Aware of Ethics	4
2.3 Know Where to Publish	5
2.4 Follow the Publication Submission Requirements	7
2.5 Start by the Paper Outline	7
2.6 Dimension Well Your Text Size	8
2.7 Use a Writing Method	9
2.8 Avoid Writing Errors	9
2.9 Write About the State of the Art	9
2.10 Know How to Reference	10
2.11 Build an Adequate Bibliography Section	11
2.12 Know How to Build Tables and Figures	11
2.13 Know How to Build Algorithms	12
2.14 Use Acronyms Properly	13
2.15 Be Coherent Through the Whole document	13
2.16 Be Persistent	13
3 Conclusions	15
Bibliography	18

List of Acronyms

ACM – Association for Computing Machinery

APA – American Psychological Association

DBLP – Digital Bibliography & Library Project

ICDM – International Conference on Data Mining

IEEE – Institute of Electrical and Electronics Engineers

IMRC – “Introduction”, “Materials and Methods” and “Results and Conclusions”

JCR – Journal Citation Reports

KISS – Keep It Simple, but Scientific

MAP-i – Minho, Aveiro and Porto University Doctoral Program in Computer Science

MEGSI – Master Course in Engineering and Management of Information Systems

MEI – Master Course in Informatics Engineering

MI – Master Course in Informatics

MLA – Modern Language Association of America

MSc – Master of Science

MServInf – Master Course in Information Services

MSI – Master Course in Information Systems

PhD – Doctor of Philosophy

SJR – SCImago Journal & Country Rank

VEC – Variable Effect Curve

Chapter 1

Introduction

The purpose of this pedagogical report is to explain some useful guidelines for writing scholarly communication documents. While it may be of interest for researchers in general, it is intended for Master of Science (MSc) or Doctor of Philosophy (PhD) students in Computer Science or Information Systems. In effect, this report complements a two hour seminar with the same title that I presented in November 2009 (MI¹ / MEI²) and October 2010 (MI/MEI/MAP-i³), University of Minho. Also, it reflects the teaching experience of the Scholarly Communication unit, lectured in MSI⁴/MEGSI⁵/MServInf⁶ (academic years of 2009/10 and 2010/11) and PDTSI⁷ (academic year of 2010/11). Thus, this report can be also used to complement these course units.

The feedback that I received from lecturing such seminars and course units was quite positive. For example, the November 2009 seminar was evaluated as 82% (where 100% means the perfect seminar) by the attendees. Also, in the academic year of 2009/10, the Scholarly Communication course unit lecturing was graded as 90% by the students.

The guidelines here presented result in part from fifteen years of my re-

¹Master Course in Informatics (MI), see <http://www.di.uminho.pt/ensino/mestrados/mestrado-em-informatica>.

²Master Course in Informatics Engineering (MEI), see <http://di.uminho.pt/ensino/mestrados/mestrado-de-engenharia-informatica>.

³Minho, Aveiro and Porto (MAP) University Doctoral Program in Computer Science, see <http://www.map.edu.pt/i/home/overview>.

⁴Master Course in Information Systems (MSI), see <http://msi.dsi.uminho.pt/>.

⁵Master Course in Engineering and Management of Information Systems (MEGSI), see <http://megsi.dsi.uminho.pt/>.

⁶Master Course in Information Services (MServInf), see <http://mservinf.dsi.uminho.pt/>.

⁷Doctoral Program in Information Systems and Technology, see <http://pdtsi.dsi.uminho.pt/>.

search experience (see <http://www3.dsi.uminho.pt/pcortez> for details), in areas such as Business Intelligence, Data Mining, Neural Networks and Forecasting. As a researcher, I am co-author of around sixty publications in international conferences and journals (e.g. published by IEEE⁸, Elsevier or Springer). Some guidelines were collected from material read when preparing the Scholarly Communication unit. In such cases, the relevant references are cited. Given the scope of this document, i.e. it provides some useful guidelines but it is not a full book about scholarly communication writing, each guideline is described with only the essential detail. However, when appropriate, references are provided for further reading. Due to copyright issues, I do not present here some examples that were presented at the seminar (e.g. tables and figures). Furthermore, this document does not cover all aspects related to scholarly communication, although further reading suggestions are given in the Conclusions (Chapter 3).

This document is organized in three chapters, as follows. Chapter 1 introduces this document. Next, Chapter 2 presents the guidelines, each one in a different section. Finally, closing conclusions are drawn in Chapter 3.

⁸Institute of Electrical and Electronics Engineers.

Chapter 2

Scholarly Guidelines

Each of the following sections describes a different guideline for improving the writing of scholarly documents. The order presented is similar to what was presented in the two hour seminar.

2.1 Know What are the Scholarly Publication Types

Scholarly communication is about creating, disseminating and preserving scientific knowledge [Halliday, 2001]. In particular, one important scholarly communication aspect is related with the writing of scholarly publications. And before writing, it is crucial to first understand what are some of the most relevant scientific communication types:

- **book** – typically with hundreds of pages, often used for an extended description around a scientific subject;
- **thesis** – written to complete a MSc or PhD degree;
- **book chapter** – written around a given subject and included in a book where distinct authors write different chapters;
- **article** – scientific work that is published in a scientific journal;
- **conference proceedings paper** – scientific work that appears in the proceedings of a scientific conference; and
- other types - **technical report, teaching report** (e.g. this document), **white paper** and **web page**.

See also http://en.wikipedia.org/wiki/Scientific_publishing#Types_of_scientific_publications. A simple advice for a better understanding of what are these types is to read and compare several examples of these scientific works (see Section 2.9).

Scholarly publications can be classified under the type of peer review and geographic scope. A publication can be with (e.g. article) or without (e.g. invited paper) peer review. “**Peer review** is the evaluation of scientific research findings or proposals for competence, significance and originality, by qualified experts who research and submit work for publication in the same field (peers)” [Brown, 2004]. While there is still some debate and controversy, we should generally aim at writing peer reviewed documents (in particular for journal and conference papers), as this is the most adopted system for assuring scientific quality to a given work. Regarding the geographic scope, publications can be classified as:

- **national** – written under a national context (e.g. Portuguese language, published in the proceedings of a national event); and
- **international** – written under an international context (e.g. English language and international journal).

Typically, international publications are more prestigious than national ones. This document was not peer reviewed, which is common case for teaching reports published directly in the Web (i.e. without the editing process of a known publisher). Also, it may be classified as international, since it is written in English and it is publicly available in the Web, thus it may be of interest to non Portuguese students and other researchers.

2.2 Be Aware of Ethics

Before starting your research, take care of ethical issues, such as:

- If I publish a paper, who are going to be the paper’s authors? It may help if you first establish, with all persons involved in the research, the publication authorship rules.
- What will appear in the “Acknowledgments Section”? It may involve acknowledging a project or scholarship grant or persons that helped in somehow. One example of mine is “We would like to thank Cristina Lagido and the anonymous reviewers for their helpful comments. The work of P. Cortez is supported by the FCT project PTDC/EIA/64541/-2006.” [Cortez et al., 2009].

- Am I allowed to use this research data/methods/software/...? In which conditions?
- Avoid plagiarism and do not fabricate data or results.

For more details, consult [Davison et al., 2001][AIS, 2011].

2.3 Know Where to Publish

To evaluate research, we can consider:

- **productivity** - total number of papers or ratios (e.g. total number of papers per year);
- **impact** - total number of paper citations or ratios (e.g. number of citations per paper); and
- **both** - one example is the **H-index**, which is the number of H publications with at least H citations each [Bornmann and Daniel, 2005].

Knowing where to publish is particularly relevant for journal articles and conference papers. There are thousands of scientific international journals and conferences. Some of these publications are of very high quality, while others should be avoided. One example are the so called **write-only** conferences [Rahwan, 2007], i.e. conferences that attract many attendees as possible (and thus accept most or all papers) and whose printed papers are rarely read and cited, apart from self-citations.

To better select where to publish, you can:

- ask your supervisor (or other experts) for advice;
- search for impact numbers;
- search for scientific indexes and databases (i.e. to check if the journal or conference is **indexed**);
- look at additional information, such the prestige of the publisher, acceptance rate and program/technical committee composition (e.g. search for their H-index values).

While there is still some controversy [Amin and Mabe, 2003], it is more easy to evaluate journals when compared to conferences, as there are two widely adopted journal scientific indexes:

- **Journal Citation Reports (JCR)**, of Thomson Reuters Web of Knowledge (<http://isiknowledge.com>); and
- **SCImago Journal & Country Rank (SJR)**, developed by SCImago (<http://www.scimagojr.com>).

For example, these indexes were recently adopted by the Engineering School of University of Minho, as part of the evaluation process of the research results of their professors.

Both indexes measure impact, the higher the index, the better the journal quality. Also, both indexes have categories (e.g. Artificial Intelligence), thus for each category it is quite easy to rank journals. For example, in SCR for year 2008, the “Neural Networks” journal is ranked at second place in the Artificial Intelligence category (in a total of 92 journals). Journals within a given category are also ranked in terms of their quartile position (e.g. “Neural Networks” is ranked as the first quartile, Q1). In the quantitative research evaluation by the Engineering School of University of Minho, the number of points is reverse to the quartile order (e.g. a Q1 article accounts for 4 points, while the value of a Q4 article is 1 point). For further information on these journal indexes, consult [Falagas et al., 2008].

Regarding conferences, it is common to distinguish among indexed and non indexed proceedings. Some commonly used indexes/databases are:

- **Conference Proceedings Citation Index** of Thomson Reuters Web of Knowledge (<http://isiknowledge.com>) – widely adopted;
- **Scopus** (<http://www.scopus.com>) – supported by Elsevier;
- **DBLP¹** (<http://www.informatik.uni-trier.de/~ley/db/>) – mainly for Computer Science;
- **Microsoft Academic Research** (<http://academic.research.microsoft.com/>) – mainly for Computer Science, has the advantage of presenting impact numbers and rankings for distinct categories (e.g. the IEEE International Conference on Data Mining (ICDM) is ranked in third place under the Data Mining category);
- **Xplore** (<http://eeexplore.ieee.org>) – for papers published by IEEE; and
- **ACM Portal** (<http://portal.acm.org/>) – mostly for papers published by ACM².

¹Digital Bibliography & Library Project.

²Association for Computing Machinery.

Indexation information is typically available at the conference call for papers, nevertheless if you have doubts, you should check directly in the above databases if past events were indexed.

As an ideal goal, we should always match the quality of the publication target with the quality of the research. Aiming too low means that you may have valuable work that will have less impact (e.g. lower number of citations), while aiming too high means you increase the chances of rejection. While you can (and often should, see Section 2.16) submit a rejected paper to another conference/journal, it make take several months for conference/journal to emit a reject decision. Experience (e.g. past publication success or attendance to conferences) helps you in achieving the ideal goal.

2.4 Follow the Publication Submission Requirements

This may sound as an obvious guideline, since paper format rules are mandatory. For example, the call for papers of the 10th ICDM (<http://datamining.it.uts.edu.au/icdm10/>) clearly states: “papers that do not comply with the Submission Guidelines will be rejected without review”. However, in my experience as reviewer, I have found that often authors do not follow the paper format rules. For example, I have reviewed papers that mixed Spanish with English language or that contained more than the double of the allowed number of pages. My decision was to reject such papers.

Probably authors fail to meet the submission requirements to due lack of time and last changes that were performed in a rush (e.g. some conferences have strict submission deadlines). To avoid this, before starting to write, you should read carefully the paper preparation rules (e.g. maximum number of pages, use of 1 or 2 columns, font type). Quite often, scientific conferences and journals offer paper templates (e.g. L^AT_EX, Microsoft Word) that help in following the required rules. You should never use your text editor as an excuse, since ultimately what counts is the final manuscript. Also, you need to plan the writing of your document, in order to complete it properly within the submission deadline.

2.5 Start by the Paper Outline

According to the San Francisco Edit newsletters (<http://www.sfedit.net/newsletters.htm>), preparing an outline is the most important step when producing a manuscript for a journal. This tip can be extended to any

scientific document (e.g. PhD thesis). The intention is to plan in advance the structure of the document, before starting to write the text.

Depending on the type of document, the text is often divided into several components, such as part, chapter, section and subsection. Some documents have typical structures. For example, several articles or conference papers are often based on the “Introduction”, “Materials and Methods” and “Results and Conclusions” (IMRC) structure. Another example are the PhD/MSc thesis, typically divided into several chapters with a structure similar to:

1 – Introduction

1.1 – Motivation

1.2 – Objectives

2 - *State of the Art Chapter(s)* . . .

. . . – *Your Work Description Chapter(s)* . . .

4 – Conclusions

4.1 – Summary

4.2 – Discussion

4.3 – Future Work

Appendix A

. . .

References

Consult [Berndtsson et al., 2008] for further examples of common PhD outlines.

2.6 Dimension Well Your Text Size

Chapters, sections and even sentences should have a reasonable size, i.e. not too large, not too short. If possible, all chapters/sections should have around the same size, although the “Introduction” and “Conclusions” chapters/sections are often shorter. Never use one isolated subsection (or one bullet item, etc.). Use paragraphs with a reasonable size (from 3 to 6 sentences). Very short paragraphs should be exceptions, used to emphasize a given sentence.

2.7 Use a Writing Method

You should start writing when you start your research and not after performing all the research. Writing as soon as you can, helps you to organize your ideas, to keep in mind what are the most relevant points, to check your motivation, work originality (see Section 2.9). In San Francisco Edit (<http://www.sfedit.net/newsletters.htm>), you can find an interesting writing method, which basically divides your work into two roles: as a **writer**, there you use a fast and maybe ugly writing to put all the interesting points in the document; and later as an **editor**, where you revise and edit carefully the previously written draft.

2.8 Avoid Writing Errors

At the very least, use a spell checker. Sometimes I review papers with several English errors that could be easily avoided if a basic spell checker was used. Writing with typing errors may be common due to the pressure of short deadlines but give a bad impression for the review, thus should be avoided. If necessary, ask help from a colleague or native speaker to review your text before you submit it to an important journal or conference. If submitting a PhD or MSc thesis, try to provide your manuscript with several days in advance to your supervisors, so they can have time for an adequately review. If writing in Portuguese, be particularly aware of accents. Some interesting Web pages that may help are:

- Common English errors – <http://www.serendipity.li/errors.html> and <http://www.wsu.edu/~brians/errors/errors.html>.
- English dictionary – Merriam-Webster (www.m-w.com).
- English examples of grammar, punctuation, etc. – <http://www.examples-help.org.uk/>.
- Portuguese dictionary – Priberam (<http://www.priberam.pt/dlpo/dlpo.aspx>).

2.9 Write About the State of the Art

This should be an obvious guideline, but the fact is that I have reviewed several conference papers that simply do not write about the state of the art, which is an essential part of any scientific document (e.g. thesis, article).

The aim is to contextualize your research, in order to answer the question: how original is your work? In other words, what has already been done in the literature and how different is your approach when compared with previous ones? Be aware no to reinvent the wheel. Typically, a state of the art section starts by a more general subjects (e.g. the general field under study) and moves towards very specific research. As a reviewer, I appreciate when more recent references are cited in this more specific state of the art.

Currently, the Web is a very good place to search for research publications, some examples are:

- **Wikipedia** (<http://en.wikipedia.org/wiki/>) – when you have few knowledge about a given subject and want to get a basic idea of what it is about, what are the relevant keywords and some starting references. I never cite Wikipedia directly in an article or conference paper, since authors are anonymous and content evolves through time.
- **Google scholar** (<http://scholar.google.pt/>) – when you want to search for the most relevant (e.g. recent or with more citations) works related to a given subject.
- **other scientific databases** – as mentioned in Section 2.3.

For further details, consult [Webster and Watson, 2002].

2.10 Know How to Reference

In order to avoid plagiarism, to explain the state of the art and mention the most relevant works, it is important to know hot to reference within a scientific document.

The integral copy of text (large portions should be avoided) is often useful for explaining author's definitions or quotations. In such cases, use a copy of the text within quotation marks and then a reference. For example: "do not take work from another and pass it off as your own" [AIS, 2011].

When you want to describe ideas/algorithms/opinions/results/etc. of other authors, rewrite such description using your own words and then use a bibliographic reference. Often, such bibliographic references are placed at the end of a sentence, before a full stop (.) or colon (:) punctuation marks, as used in this document. When using bibliographic references, you need to follow a bibliography style through the whole document in a coherently manner. There are several bibliographic styles (e.g. APA³, MLA⁴, Harvard), check

³American Psychological Association.

⁴Modern Language Association of America.

<http://www.cs.stir.ac.uk/~kjt/software/latex/showbst.html> for more details. You should avoid the naive approach of using a manual management of the bibliographic reference, since quite often you need to update references or change the bibliographic style. A much better option is the use of reference management software. A large list of such free and commercial software is available at http://en.wikipedia.org/wiki/Comparison_of_reference_management_software. References used by this document were managed using BibTeX (<http://www.tug.org/pracjourn/2006-4/fenn/>), under the L^AT_EX apalike style (which is similar to APA).

Finally, all chapters, sections, figures, tables, equations, algorithms or similar, should have a label (typically a number), which helps when you want to reference such items. For example, instead of “in figure below” or “in the previous chapter”, you should use “in Figure 5” or “in Chapter 2”.

2.11 Build an Adequate Bibliography Section

If a reference management software is adopted, then it is quite easy to automatically create a “References” section/chapter, which appears at the end of the document and that lists all references cited previously within your text. Depending on the bibliographic style, such list can order alphabetically, by the last name of the first author, or according to the order that references appear in the text.

When adding references to your reference management software, assure that you:

- i) correctly identify the type of scientific document (Section 2.1); and
- ii) introduce all relevant elements (e.g. author names, title, publication name, pages, address, year).

Maybe due to the pressure of submission deadlines, I found that several authors, in particular when writing MSc thesis, do not present the list of references in a coherent way (e.g. alphabetically ordered) and with all the relevant details (e.g. no publisher and country address is presented for books).

2.12 Know How to Build Tables and Figures

Often, the best way to present results or introduce concepts is to use tables and figures. In some cases, a good conference paper/article is written around one very good table/figure (the main idea you are proposing). Thus, you should take some effort in designing tables and figures. A large list of useful

tips for building tables and figures is available at San Francisco Edit (<http://www.sfedit.net/newsletters.htm>).

Regarding tables, unless stated otherwise, captions appear before the table. The meaning of each column/row should be clear to the reader. If you want to present a comparison, you should present the items to compare in the columns, with the item you favor at the right (since we westerners typically read from left to right). Also, reading is quite facilitated if you distinguish (e.g. by using **bold**) what is the best result. For figures, the legend often appears at the end of the figure. If you have several images within one figure, you can distinguish them by using expressions, such as “the top of Figure 2 shows”, “the left of Figure 3 presents”. An alternative is to include labels (e.g. “a”, “b”, “c”, “d”) near to each image to facilitate referencing (e.g. “in Figure 2.a”). When creating tables/figures, you should adopt the Keep It Simple, but Scientific (KISS) principle [Good and Hardin, 2009]. For example, in graphs, do not use an extra 3-D dimension, unless such dimension contains useful information (e.g. which is not the case of several Excel 3-D graphs). Finally, you should never “copy and paste” tables/figures from other sources, unless you have the permission from the copyright holder (e.g. the publisher). As an alternative, you can “adapt” a table/figure, but even in such cases you should mention this in the caption or figure legend (e.g. “Bla bla (adapted from [Author, YEAR])”).

For my own examples of carefully designed figures and tables, you can take a careful look at all figures and tables from [Silva et al., 2008] and [Cortez et al., 2009].

2.13 Know How to Build Algorithms

In Computer Science, it is quite common to present novel algorithms, typically in a pseudo-code. Even if there is a previous text explanation of how the algorithm works (including often mathematical formulas), presenting the algorithm in pseudo-code really helps researchers to understand some specific details and also to implement the algorithm in the programming language of their preference. In the L^AT_EX editor, there are several packages that aid this process, such as `algorithmicx` (<http://www.ctan.org/tex-archive/macros/latex/contrib/algorithmicx/algorithmicx.pdf>). You can check some good examples of pseudo-code algorithms in [Fawcett, 2006].

2.14 Use Acronyms Properly

Even if some acronyms are quite known, you should explicitly define them the first time they are introduced. You should minimize the use of acronyms in the abstract and only if you need to repeat the term at least twice. In fact, it is in the introduction that you typically start defining acronyms. Once the acronym is defined, you should use the acronym and not repeat its full definition. The exceptions can be some parts that are typically read first by most readers (e.g. “Conclusions” section). The way you present acronyms may differ, according to the publication guidelines. For example, in some cases (such as adopted in this document) you use capital letters in the first letter words of the full definition. In some documents (e.g. PhD thesis), it may help if you create a list of acronyms (ordered alphabetically) before the beginning of the introduction (as performed in this report).

You should also use acronyms if you want to give a name to your novel system/algorithm/method/methodology, in order for others to cite it. If possible, use a “catchy” acronym. For example, in [Cortez et al., 2009], I introduced the simple acronym Variable Effect Curve (VEC), when defining a novel type of graph.

2.15 Be Coherent Through the Whole document

Use a coherent writing through your document. If you use capital letters under a given context, then use the same style through the remaining document (e.g. it does not sound right to use first “Data Mining” and then later “data mining”). You should take a particular care with the use of capital letters in chapter and section titles. For instance, the style adopted in this document is to use a capital letters in the first letters of all relevant words of the title. If you use a bold or italic font to emphasize text, then maintain this style. And so on...

2.16 Be Persistent

In 2003, Richard T. Watson (<http://www.terry.uga.edu/~rwatson/>) gave a seminar about publication success at the Department of Information Systems, University of Minho, Portugal. For me, the most insightful tips were “Resiliency is the key to publication success” and “those who publish a lot, submit a lot” [Watson, 2003].

If you like to do research and want to follow a research career, if you want your research to have an impact, then often you need to produce results, such as finishing with success a PhD thesis and publishing high quality conference papers or journal articles. When you submit to high quality publications (often with low acceptance rates), the chances of rejection increase. Thus, within the process of research publication, it may be natural to have rejected papers. In such situation, the Richard T. Watson advice was to first clear your mind from your “damaged” ego. Then, read carefully why your paper (or research proposal) was rejected. Next, reflect and learn about the rejection. Do you have strong or minor flaws? Do you need to redo your work? Do you need to submit to a different journal/conference? Do you need to rewrite the manuscript in a different way?

As an example of why you should persist, I have one published journal article that was first rejected, then accepted with major revisions, later accepted with minor revisions and finally accepted, after the forth submission and a two year period. Such article has currently 11 citations in the Thomson Reuters Web of Knowledge database.

Chapter 3

Conclusions

Scholarly communication is a key aspect of research. In particular, the results of research are often shown in terms of published scientific documents (e.g. journal article, conference paper or PhD thesis). This report provides some useful guidelines (in Chapter 2) to improve the writing of such documents. The aim is to complement a two hour seminar (see Chapter 1), rather than presenting a full book about the writing of scientific documents.

When writing this document, I tried to follow, as best as possible, the same guidelines that are presented here. I used the `texmakerx` (<http://texmakerx.sourceforge.net/>), which is a free cross-platform L^AT_EX editor. L^AT_EX is a document markup language and document preparation system for the T_EX program and it is quite useful for producing scientific documents (<http://www.latex-project.org/>). In particular, I adopted the L^AT_EX `book` document class. As mentioned before, bibliographic references were managed using BibTeX program and `apalike` style.

Not all aspects related to scientific writing are covered. For further reading, I recommend the following references/Web sites:

Scholarly communication – [Halliday, 2001], [Van de Sompel et al., 2004] and [Brown, 2004].

Writing PhD and Msc thesis – [Berndtsson et al., 2008].

Writing article and conference papers – [Langley, 2000] and <http://research.microsoft.com/en-us/um/people/simonpj/papers/giving-a-talk/writing-a-paper-slides.pdf>.

Scientific indexes – [Amin and Mabe, 2003], [Falagas et al., 2008] and [Bornmann and Daniel, 2005].

Ethical issues – [Davison et al., 2001] and [AIS, 2011].

Writing a state of the art – [Webster and Watson, 2002].

Figures and Tables – [Good and Hardin, 2009].

More useful tips: –

- San Francisco Edit Newsletters (<http://www.sfedit.net/newsletters.htm>);
- Scitext principles of writing (<http://www.scitext.com/writing.php>);
- 10 slide design tips for producing powerful and effective presentations (http://articles.techrepublic.com.com/5100-22_11-6117178.html); and
- Advice on designing scientific posters (<http://www.swarthmore.edu/NatSci/cpurrin1/posteradvice.htm>).

Before ending, I would like to thank Ana Alice Baptista (<http://www3.dsi.uminho.pt/analice/Welcome.html>), which co-lectured with me the Scholarly Communication unit course, academic year of 2009/10, and provided my several of the references listed in this document. I would also like to thank João Miguel Fernandes (<http://www3.di.uminho.pt/~jmfp/>) and Ricardo Machado (<http://www3.dsi.uminho.pt/rmac/>), who invited me for the two hour seminar “Some Scholarly Communication Guidelines”, lectured for the MI, MEI and MAP-i students. In particular, J. M. Fernandes has discussed with me some of the aspects lectured in the seminar.

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