

# Preparing a paper for publishing

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## Abstract

This article gives as the five main requirements for a professional journal paper: an interesting topic, an appropriate target audience, comprehensibility to peers, carrying a key message, and careful presentation. In decreasing order of importance, the main presentation aspects are: structure, documentation, style, grammar and spelling. Models for the structure of articles in newspapers ("inverted pyramid") and scientific journals ("IMRAD"), respectively, are explained. Documentation: well-designed tables, appropriate illustrations, and particularly accurate references in professional literature are important. Style, grammar and spelling can be improved in an iterative editing process, once the content, documentation and structure are established.

## Introduction

So you want to publish an article in a professional journal? To improve the odds that your work succeeds, it pays to consider the basics of a good article. Although ultimately subjective, a "good" article needs to:

i) have content, i.e., a topic that is of interest not just to you, but to others as well.

Otherwise there is little point in it being published = made public. Even archival publishing assumes further interest in the content by someone, perhaps some time in the future.

ii) target an audience that matches the topic of the article. For example, New Zealand Journal of Marine and Freshwater Research is not appropriate for articles about child care (even though its readers may include parents of young children - yet they wouldn't look for that kind of information in NZJMF). A journal can be authoritative only within its defined scope - see its Information for Authors, published annually.

iii) speak the lingo. Like it or not, every subject matter has its own jargon and level of abstraction. Mathematical equations will be quite inappropriate for some publications, others couldn't do without them. A typical characteristic of most professional journals is that authorship and readership overlap: the article therefore must be comprehensible to peers, not necessarily to everyone else.

iv) give a clear message. Just writing about something doesn't usually justify spending time, energy, and publisher resources to get it printed and distributed. A contribution to a professional journal must be new, true, and important.

v) be well presented. Given the above, this is the bit that can be learnt and improved every time you give it a go. In fact, this is an iterative process that in theory never ends - but you have to draw a line somewhere! Only the presentation aspects of publishing are further developed in this article.

## Presentation

The main aspects of presentation, as I see them, in order of decreasing importance are: 1. structure; 2. documentation; 3. style; 4. grammar; 5. spelling.

### *1. Structure*

The structure of your article depends very much on the type of publication you are writing for, and whether it is a news item, or a literature review, or a specialist research paper.

Newspaper articles are traditionally in the inverted pyramid ("upside-down triangle") form. The reason for this is simple: newspaper text is trimmed to fit a space, so the least important bit goes at the end--then it doesn't matter so much if it is lost. Equally important, the first paragraph (better: the first sentence) needs to sum up what the article is about. This is called the 5W starter: who, what, where, when and why--all in that first phrase that needs to grab the attention of the busily browsing (generalist) reader. If you miss the point, your audience has already lost its interest. The objective here is: impact.

At the other end of the spectrum, most research papers in scientific journals follow the IMRAD structure, short for Introduction, Materials & Methods, Results And Discussion (see Lynch 1994). The main justification for this structure is that a scientific paper must be precise, accurate and comprehensive. If it describes an experiment, that must be reproducible by the (specialist) reader--and ideally give identical results!

IMRAD is the meat, sandwiched between two very important other parts: the abstract and references. The importance of both justifies some elaboration (see Jasperse 1992: Chapter 2 for a more detailed discussion):

- a) The abstract summarises the main points of the paper, and tells the readers in a glimpse whether your paper is worth their while reading it in full. Abstracts can find their way into a variety of searchable databases in print, on line and on CD-ROM. Abstracts should be brief and to the point (ISO 1976), and never contain any references. Practise by summarising your topic, or your personal background, in about 100 words: a very useful exercise at any time.
- b) References link the paper with other relevant articles and books (Cronin 1984). References may tell you where to find additional related information, may support statements you make in the text (especially in the Introduction, Methods and Discussion sections). In most scientific journals it is customary to list all references at the end of an article, and use a number (the "Cambridge system") or the author's name and the year of publication (the "Harvard system", illustrated in this draft) as reference marks.

Here I must emphasise the difference between an assignment or thesis on the one hand, and a scientific publication or treatise on the other. The main function of a thesis is to impress your examiners (after all, you want to pass). You can cite as many publications in your introduction and discussion as you can fit in (if your supervisor lets you get away with it) to show off that you have covered your field of study--so long as they are relevant.

The scientific research paper (as opposed to a review paper) is your contribution to a field that others may know much better than you do--the only piece of research others don't know about is what you have to report. Make that piece shine by being clear, precise, succinct, honest and to the point. You will have to live with it for the rest of your life! Cite essential references only, make sure all cited works (and only those)

are listed in the end- or footnotes. Double-check (no, triple-check) the accuracy of spelling of author's names, titles, journals' names, volume and page details (see appendix). An incorrect or partially correct reference is useless.

## *2. Documentation*

Here are some more thoughts on documentation. References are an important aspect of it, as covered above. A table can be useful in succinctly presenting repetitive verbal or numerical information. Illustrations can be very powerful. Remember the maxim, "A picture is worth 1000 words"? It has to be a good picture, though: clear and to the point. An original way of representing dry facts can lift the impact greatly: try to "escape flatland", as Tufte (1991) calls it. Make sure to design your figures, lines and lettering with final dimensions of the printed journal page in mind. What is clear on your original, may not look so well or even be illegible after reduction to final size (usually the width of a page, or text column). A reducing photocopier can be a very useful tool here.

## *3. Style*

A word about style: this concerns some of the subtleties of language and conventions in the publication you are writing for. For example, should words be in bold type or put in italics for emphasis; should journal names be abbreviated or given in full, with each word capitalised or not? Try to mimic the style of your chosen publication, and don't be upset if the editor still changes everything. A very useful New Zealand style book was recently updated (Wallace & Hughes 1995). Read it. Use it. Iterate.

## *4. Grammar*

Poor grammar is irritating to read and, worse, can make the meaning of your sentences unclear. As in speech, avoid racism, ageism and sexism. Keep sentence structure simple, make most sentences short (but avoid staccato: use your judgement). Let the number of your sentence subject match the verb. Avoid duplication. Be careful with your punctuation; use paragraphs and subheadings to break up solid text.

## *5. Spelling*

Finally, spelling - why do I rate it so low? Only, and really only because this is the one part that computers can do better than most of us (including those in the "advanced" category). Although far from perfect, spell checkers can pick up most, but not all, typographical error (typos) - so, never print a word-processed final document without a spell check first. Don't put all your faith in a spell-check either. The odds are, that almost all typos will be eliminated in the journal production process.

## **Finishing the job**

So there you are: a couple of guidelines to get you going. Don't be afraid to put the pen to paper or the characters to screen. Don't worry if at first your text doesn't flow or the pieces appear to be in the wrong place. Cutting and pasting can be a very relaxing and mind-focusing activity, so long as you have the right content to begin with. Once you are satisfied with what you have, put your piece away for at least a week, and give it a fresh look later. Ask someone else to read it and to comment constructively. Consider each piece of advice given, but dare to decide whether to take it or leave it (the article will have your name on it!).

Print your draft, one-sided with 1.5 or double line spacing in clear type. Use preferably a non-proportional font such as Courier, non-justified, in a size to give about 70 characters to a line: this benefits proof-reading (cf. Jasperse 1995). Number the pages. Revise once more, proof-read carefully, then submit to an appropriate publication. Don't be too put out by a rejection: learn from your mistakes, revise and try again, perhaps somewhere else. If you have worthwhile content, then there will be an appropriate outlet for it.

## **Acknowledgment**

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## **Appendix: Common errors in references (from Jasperse 1992 Section 11.12)**

The accuracy of many published references is suspect; there are many common examples of author deficiencies. [I identify] the following errors:

1. incorrect spelling of referenced author names (in particular uncommon names or with non-English accentuation) of article, journal or book titles, publishers and place of publication;
2. numerical mistakes in referenced year and or page numbers, or their omission;
3. use of abbreviations which are uncommon or unstandardised, and not explained (e.g., for an international readership);

4. ambiguous reference by failing to clearly separate two or more publications by the same author in any one year;
5. omission from the references list of authors mentioned in the text;
6. listing superfluous references that are not mentioned in the text;
7. referring to unpublished material as being published;
8. non-sequential listing of publications by the same author;
9. strictly alphabetical order of authors failed to be observed;
10. unsystematic mixing of single - and multiple - author references;
11. inconsistent listing of anonymous articles (e.g., in newspapers or of reports prepared by a committee, government department, or international organisation);
12. failure to observe typographical guide-lines, albeit self-imposed, generally accepted, or publisher-specific ones.

Failure to observe items 1 and 2 are the most serious, as they will not be able to be corrected by anyone but the author during the publication production process. Professional high-standard editors will usually refer back to the author items 3 through 6, query item 7, and be able to correct items 8 through 12 themselves. [...]

Some typographical errors will inevitably be overlooked; the final version [...] unlikely to be an exception to [my] maxim:

"Perfection in print is a contradiction in terms."