How to write a successful paper

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Part 1
International scientific, technical and medical research publishing: current aspects and readers’ needs

1. Science journals: service to the research community or profit-making product?
“NPG journals had the highest rated impact factor in every discipline in which we publish; the newly-launched Nature Reviews showed impact factors 2-3 times higher than their long-established competitors which have been published for over 15 years, and Nature Materials debuted with an impact factor of 10.8, outstripping its main competitor, Advanced Materials, by over 3 points to be not only the highest ranked journal in Materials Science but in all of physics.”

(Charkin 2004)
Two main economic models: Commercial vs. society (not-for-profit) publisher.

Both produce good journals to attract good manuscripts.
But the priorities and criteria for acceptance may not be the same.

Understanding the publisher’s economic model and “philosophy” can provide insight into their editorial policies.
Insight into their policies can help authors select target journals with better chances of **success**: 

- more favorable reception  
- faster review and publication
2. Anglocentrism and globalization

Wikimedia Commons
English linguistic imperialism: “the dominance asserted and maintained by the establishment and continuous reconstitution of structural and cultural inequalities between English and other languages”

(Anonymous, Wikipedia, citing Robert Phillipson)
“Some authors have voiced concerns about the dominance of the English language and US publications in the ISI database as possible sources of bias, but author biases may be more influential.”

(Chew, Villanueva, Van Der Weyden 2007)
“Like native English speakers, authors in countries where English is not the first language prefer to publish in English (possibly as such articles have a higher impact than those in their native tongue); they also prefer to cite English-language articles, even in non-English language publications.”

(Chew, Villanueva, Van Der Weyden 2007)
More information (too much!), therefore less time to analyze information critically.

Increasing dependence on information technology.

Literature review strategies narrower and less complete than in the pre-Internet era.
Consequences for literature searches:

Older studies (pre-Internet publishing technology), studies not available online (access policies), and studies not in English tend to be overlooked.
Therefore:

To reach the right *readers*, researchers need to have a *publication strategy* in addition to good research and good writing skills.
3. What do editors want?

The Guardian
At *BMJ*:

- sound science and statistics
- new information
- papers that will be read and cited
- papers that are well written

(Langdon-Neuner 2008)
At *Diabetologia*:

- tell a story
- message communicated in 2-3 sentences
- new, interesting
- basic information for a sensible and intelligent reader unfamiliar with the subject area

(Gale 2008)
Articles likely to:
- have a high impact
- receive media coverage (controversial, current topics)
- have high citation potential
- increase the impact factor

(Chew, Villanueva and Van Der Weyden 2007)
What should authors want?

An optimal match between your work and the journal’s mission (Guyatt and Haynes, 2006)

Study and compare potential target journals.
Part 2
Writing to make your results easy to understand
1. A **title** that reflects the contents
What subjects? What population?
What conditions? Where?
What setting (local, national, regional, international)?
Experimental or observational (noninterventional)?
When?
1. Title

Emphasis on the hypothesis, the method, or the results?

Should the title state the conclusion?

Consult examples in your target journal.

Revise the title after the main text and abstract are finished.
2. An **Abstract** that reflects the contents.

Re-revise the abstract after the main manuscript is completely finished.
2. **Abstract**

No discrepancies in the information in the abstract, main text, and tables or figures for: **terminology, sample size, population size, numerical data.**
3. An *Introduction* that attracts attention and identifies the *target population* of readers
- Interesting first sentence
- Identify the problem or gap in knowledge.
- Explain why it is a problem.
- State your proposed solution.
- Say how you tested your solution.
4. **Methods** that don’t keep secrets.

No secret ingredients or secret techniques please!
4. Methods

Supplementary information?

Internet publishing means unlimited space but readers don’t have unlimited time to search and read everything.
5. **Results** that focus on the question asked in the Introduction.

**Figures and tables** that focus on the question asked, and the data that help readers answer it for themselves without reading the Discussion.
5. **Results** that focus on the question asked in the Introduction.

If you present data clearly, the readers will be able to foresee your conclusions, and your article will be more convincing.
6. A **Discussion** that explains what your findings mean.

Answer the **question** you asked in the **Introduction**.
6. A **Discussion** that is critical of your own study.

- Identify the limitations.
- Explain how far the conclusions can be generalized.
- Suggest new studies that could help answer questions that require more data.
EXERCISE
Please write a title for the abstracts.
What specialty do you think the articles are from?
What specialists need to read this article to improve their research or clinical care?
1. Interaction between p53 codon 72 polymorphism and melanocortin 1 receptor variants on suntan response and cutaneous melanoma risk
   *British Journal of Dermatology*

2. Germline and somatic c-met mutations in multifocal/bilateral and sporadic papillary renal carcinomas of selected patients
   *International Journal of Oncology*

3. Mechanism of hypotensive transients associated with abrupt bradycardias in conscious rabbits
   *Canadian Journal of Cardiology*
Part 3
Good scientific English style

Wikimedia Commons
Who can help you improve your writing?

Native speakers of English?

Specialized translator or author’s editor?

Scientific peers and subject experts?
1. **Language and usage:**
   - Grammar and syntax
   - Specialized terminology and usage

2. **Content and writing:**
   - Organization and logical flow
   - Rhetoric and persuasiveness
Grammar, syntax:
Well-educated native speaker, preferably with specialized knowledge

Terminology, usage:
Subject expert or specialized translator or editor
Organization, logical flow: 
Reviewer or well-educated native speaker, translator/editor

Rhetoric, persuasiveness: 
Reviewer or experienced translator or editor, preferably with specialized knowledge
Local peers and advisors
Experts in the scientific content

Author’s editors
Experts in written communication

When? Before manuscript submittal
Author’s editors

- help authors to produce writing that will effectively communicate their message to the target audience

- help ensure that the text is read with respect for and attention to the content
EXERCISE
Please study the abstracts to see if they can be understood after just one quick read.

Please identify different types of writing problems: use of language (grammar, terminology, usage) or organization and logic (flow, persuasiveness).
Part 4
Good scientific English style
Some practical examples
Goal: a text that is clear and accurate, not a work of art
How do I start writing?

- Use whatever strategy works for you.
- Be prepared to think hard about who your readers will be and what they need to know.
- Be prepared to make many changes.
Writing strategies

- Make notes or draft parts of the text any time you have an idea.
- Make an outline.
- Make a list of references that should be cited.
- Write the easy parts first and the hard parts last.
Make English your ally for clear communication, not your opponent.

The reader needs to be convinced that your findings are logical, valid, and supported by solid evidence, not impressed by your writing style.
1. A simple and boring text is better than a complex, “interesting” text that is hard to understand.
2. Revise, correct and rewrite patiently. It is normal for a good article to be rewritten many times before it is clear enough for readers to understand easily.
3. Ask a specific question. Provide a specific answer.

Your **statement of purpose (at the end of the Introduction)** is the anchor for the whole article.
3. Refer to your statement of purpose often while writing and revising, to stay focussed on the aim of the study and the new, original, key results.
4. What are your results and what do they mean for other researchers?

Eliminate discussion and references that are not related to the research question posed in the Introduction.
5. Relate the conclusions explicitly to the aim of the study.

Make reading simple, not stormy.
6. Don’t copy and paste from other articles. The English may not be very good.

Many articles in an unreadable writing style are published even in top journals.

Vasconcelos SMR. Writing up research in English: Choice or necessity? Rev Col Bras Cir 2007; 34:1-2
Even manuscripts written by native speakers of English are frequently criticized for poor English.

It has frequently been said that despite the fact of having English as their first language, authors who fulfil this criterion may nonetheless receive frequent negative feedback due to the unfeasibility of discerning the meaning in their written communications.
Tell a simple story to explain and convince, not to deceive or oversell. The human element is okay.

A narrative sequence that mentions surprises, insights or even errors helps to **keep the readers interested in the conclusions**.

How does your research story end?
Part 5
Peer review, feedback, and manuscript revision:
Accept good advice but resist bad advice.
“Researchers overwhelmingly (90%) said the main area of effectiveness of peer review was in improving the quality of the published paper, and a similar percentage said it had improved their own last published paper, including identifying scientific errors and missed and inaccurate references.”

(Ware 2008)
“Our experience is that substantial improvements on the basis of reviewers’ comments are unusual, but do happen on occasion.”

(Guyatt and Haynes 2006)
“If I believe a referee is mistaken in his/her concern, and I know a way to defuse that mistaken concern without telling the referee that he/she is mistaken, then I will use that way because the probability of surviving the review process decreases when referee concerns are challenged rather than accepted.”

(Wright and Armstrong 2008, quoting an anonymous researcher)
Competencies:

Scientific expertise *and* language/writing expertise?

Are reviewers always right about the English, the language and the writing?
“Far from this being an occasional occurrence, it seems that the excuse of poor English is used as a way of rejecting manuscripts, a handy tool to have in these days of heavy submission loads and the need to ‘cull’ manuscripts before peer review.”

(Cooter 2008)
Editors and reviewers are rarely trained in editing or reviewing skills.

Editing a journal and reviewing manuscripts are mostly unpaid (or poorly paid), volunteer, amateur services to science.
If the gatekeepers responsible for editorial quality control are not trained in quality control skills, we cannot assume they are all skillful editors or reviewers, even though they are very skillful researchers and subject experts.
For most researchers, and therefore most reviewers, English is not their first language.

But even if English is the reviewer’s first language...
“Through the Anglo-American hegemony, UK- and US-based referees’ comments often not only force a non-native English-speaking author to rewrite his/her paper, but also increase the ‘creative destruction’ of a paper.”

Aalbers MB. Creative destruction through the Anglo-American hegemony: a non-Anglo-American view on publications, referees, and language. Area 2004; 36: 319-322
EXERCISE
What should you do if you disagree with a reviewer’s criticism or request for modification in the manuscript? Why?
Conclusions
Every journal is different, every editor is different, but good writing is the same: **clear, rigorous and convincing.**

Impartial Judgment by the “Gatekeepers” of Science: Fallibility and Accountability in the Peer Review Process

**Methods**

Participants and procedures
To measure mortality we did a national cross-sectional cohort study of deaths from January, 2002, through July, 2006. Household information was gathered about deaths that occurred between January of March 18, 2003, in all houses compared with deaths that occurred through to the date of 12,000 was calculated to doubling of an estimated pr

**RESULTS**

Methodological and Statistical Content Study
Less than half of the 166 journals provided information on statistical methods (Table 1). Eighty-seven percent (13/15) of general journals and 36% (54/151) of specialty journals made reference to ICMJE uniform requirements. 11 Fifty-three percent
Clear:

The reader doesn’t need to read the same sentence or paragraph more than once, and can navigate all parts of the article easily.
Rigorous:

- The results (including tables and figures) follow from the methods.
- The discussion follows from the introduction.
- Limitations and possible additional studies are noted.
Convincing:

- Focus on answering the question asked in the introduction.
- Don’t overstate or exaggerate your conclusions.
- Search for and correct technical errors.
Convincing:

Be confident in the interest and usefulness of your findings.

Thank-you very much for your participation.

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