Writing Scientific Papers in English: Tips and Resources

Barbara Gastel, MD, MPH
Professor, Texas A&M University
Knowledge Community Editor,
AuthorAID at INASP
bgastel@cvm.tamu.edu

Welcome!



Overview

- Essentials—and challenges
- 12 tips
- Some exercises along the way
- Some resources
- Questions and answers

Essentials—and Challenges



The Essentials

- The essentials of a successful scientific paper are content, organization, and clarity.
- If a paper has excellent content, is well organized, and is clear, it is likely to be accepted even if the English is so-so.
- If a paper has poor content, is badly organized, or is unclear, it is likely to be rejected even if the English is excellent.

Challenges

- Use of English—the most obvious challenge, but not the only one
- Common culturally related challenges
 - Directness of expression
 - Amount of detail
 - Attitudes toward using material from others' writing
 - Attitudes toward time
 - Publication norms

12 Tips on Scientific Writing



1. Write to communicate, not to impress.

- Desirable impression: that the material is clear, important, and interesting
- Undesirable impression: that you have a big vocabulary but that the subject matter is confusing
- Good writing is largely "invisible writing."
- Remember: Many readers know relatively little English, and most readers are busy.

2. Establish a productive mindset.

- Remember that you are writing to communicate, not to impress.
- Realize that those reading your work want you to do well.
 - Journal editors
 - Peer reviewers
 - Professors

The purpose of their constructive criticism is to help you succeed.

3. Know the ethics.

- Authenticity
- Accuracy
- Originality
- Credit
- Ethical treatment of humans and animals
- Disclosure of conflicts of interest

4. Follow the instructions.

- Surprisingly, this advice is often ignored.
- Extremely important for scientific papers (and grant proposals)
- Instructions to authors may especially help those unfamiliar with publication norms.
- A good resource: "Instructions to Authors in the Health Sciences"
 (http://mulford.modushio.odu/instr/)

(http://mulford.meduohio.edu/instr/)

5. Gather plenty of suitable information.

- An article can be no better than the information gathered.
- In addition to gathering new data, search the literature, so your findings are presented in context.
- Often an excellent resource: librarians
- Make note of sources of information, to avoid problems later.

6. Use good models.

- Good scientific writing: largely a matter of imitation
- Use articles in your target journal as models.
- Some things to notice:
 - Length (total and of individual sections)
 - Number and design of tables and figures
 - Amount of detail
 - Subheadings
 - Words and phrases commonly used

Mini-Exercise

Think of a highly regarded article that (1) is on research similar to yours and (2) is in a journal where you would like to publish. Promise yourself that you will

- Identify structural aspects of the article that could serve as models.
- In the article, find words and phrases that could be useful in writing about your research.

Example, with some useful words and phrases in red

Source: Abstract of "Measuring adherence to antiretroviral therapy in northern Tanzania: feasibility and acceptability of the Medication Event Monitoring System" by Ramsey A Lyimo, Jossy van den Boogaard, Elizabeth Msoka, Harm J Hospers, Andre van der Ven, Declare Mushi, and Marijn de Bruin. *BMC Public Health* 2011, 11:92doi:10.1186/1471-2458-11-92

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Background

An often-used tool to measure adherence to antiretroviral therapy (ART) is the Medication Event Monitoring System (MEMS), an electronic pill-cap that registers date and time of pill-bottle openings. Despite its strengths, MEMS-data can be compromised by inaccurate use and acceptability problems due to its design. These barriers remain, however, to be investigated in resource-limited settings. We evaluated the feasibility and acceptability of using MEMS-caps to monitor adherence among HIV-infected patients attending a rural clinic in Tanzania's Kilimanjaro Region.

Methods

Eligible patients were approached and asked to use the MEMS-caps for three consecutive months. Thereafter, qualitative, in-depth interviews about the use of MEMS were conducted with the patients. MEMS-data were used to corroborate the interview results.

Results

Twenty-three of the 24 patients approached agreed to participate. Apart from MEMS-use on travel occasions, patients reported no barriers regarding MEMS-use. Unexpectedly, the MEMS-bottle design reduced the patients' fear for HIV-status disclosure. Patients indicated that having their behavior monitored motivated them to adhere better. MEMS-data showed that most patients had high levels of adherence and there were no bottle-openings that could not be accounted for by medication intake. Nonadherence in the days prior to clinic visits was common and due to the clinic dispensing too few pills.

Conclusion

MEMS-bottle use was readily accepted by patients. Although the MEMS-bottle was used accurately by most patients, patients need to be more explicitly instructed to continue MEMS-use when travelling. Even HIV-clinics with sufficient staff and free medication may impose structural adherence barriers by supplying an insufficient amount of pills.

7. Organize the information carefully.

- Robert A. Day: "The preparation of a scientific paper has less to do with literary skill than with organization."
- Time invested in organization can save much time later.
- Usual organization of a scientific paper: IMRAD or a variant thereof
- Usual organization of paragraph: overview before details (in other words, topic sentence and then other sentences)

The IMRAD Format

- Introduction What was the question?
- Methods How did you try to answer it?
- Results What did you find?
- And
- Discussion What does it mean?

8. Set aside blocks of time for writing.

- Reserve times for writing.
- Consider having regularly scheduled times to write.
- Choose the times according to when you tend to function best.

Mini-Exercise

Identify a time (or 2 or 3 times) to set aside each week for writing. Tell the people around you what time(s) you chose and why.

9. Write in English from the start.

- Write even the first draft in English.
- Do not write the paper in your native language and then translate it. (Doing so tends to produce a paper with the sentence structure, thought patterns, organizational patterns, etc of your native language.)
- Do not worry about making the English perfect right away. You can revise later.
- Some people say they write more exactly and clearly in English than in their native language.

10. Revise, revise, revise.

- Even native speakers of English benefit from revising their papers repeatedly.
- Revise for content, organization, clarity, readability, and language use.
- Pay particularly attention to aspects of language use that tend to be problems (examples: verb tenses, prepositions, articles such as the, sentence structure, sentence length).

Mini-exercise: Revising for readability

Where feasible,

- Use simple, common words
 - attempt→ fundamental→
- Delete needless words
 - red in color→ totally destroyed→
- Condense wordy phrases
 - at this point in time→ in the event that→
- Use verbs, not nouns made from them
 - produce relief of→ provide an explanation→

11. Credit sources adequately.

- In general, use your own words.
- When using others' words:
 - Put the material in quotation marks if it's short.
 - Indent it if it's long.
 - Cite the source.
- If a fact or idea isn't your own (and isn't common knowledge), cite the source.
- Use the requested citation format.

12. Get pre-submission peer review.

- If possible, obtain feedback from people who know your field and have a strong command of English-language writing.
- Consider having one or more papers edited by a professional scientific editor.
- Analyze the suggestions and revisions, and apply what you learn to writing future scientific papers.

Recap: The Basics

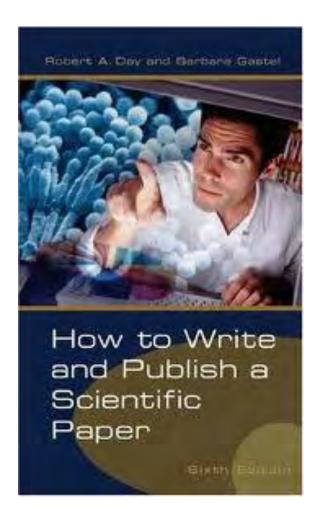
- 1. Write to communicate, not to impress.
- 2. Establish a productive mindset.
- 3. Know the ethics.
- 4. Follow the instructions.
- 5. Gather plenty of suitable information.
- 6. Use good models.
- 7. Organize the information carefully.
- 8. Set aside blocks of time for writing.
- 9. Write in English from the start.
- 10. Revise, revise, revise.
- 11. Credit sources adequately.
- 12. Get pre-submission peer review.

Some Resources



Books on Scientific Writing

- On scientific writing in general (example: How to Write and Publish a Scientific Paper, by Robert A. Day and Barbara Gastel)
- On writing in specific fields of science (example: Essentials of Writing Biomedical Research Papers, by Mimi Zeiger)
- Often available from university libraries
- Maybe look at several



How to
Write and
Publish a
Scientific
Paper

Robert A. Dav and Barbara Gaste

Style Manuals

- The ACS (American Chemical Society) Style Guide
- AMA (American Medical Association) Manual of Style
- The Chicago Manual of Style
- The MLA (Modern Language Association) Style Manual and Guide to Scholarly Publishing
- Publication Manual of the American Psychological Association
- Scientific Style and Format

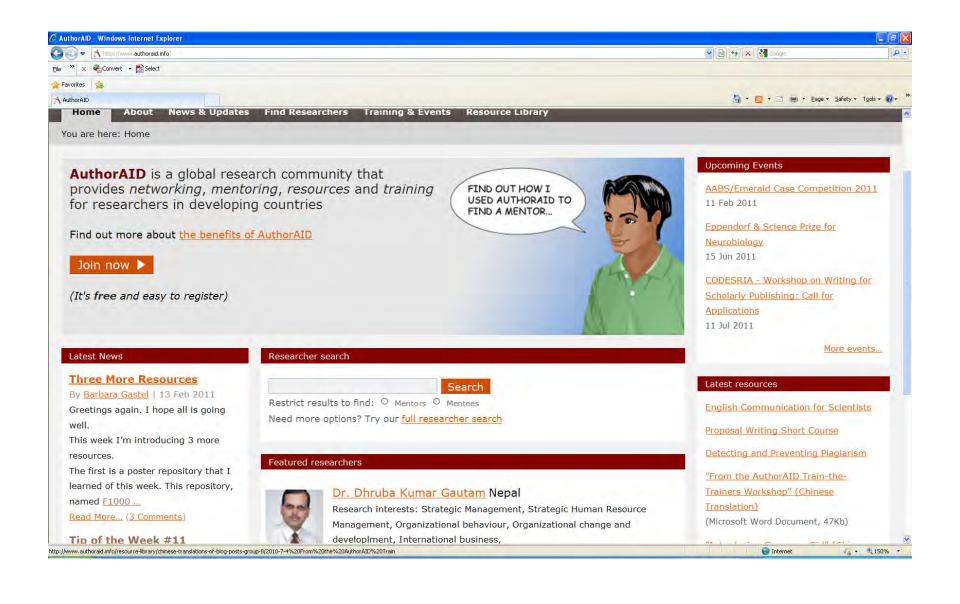
Online Resources

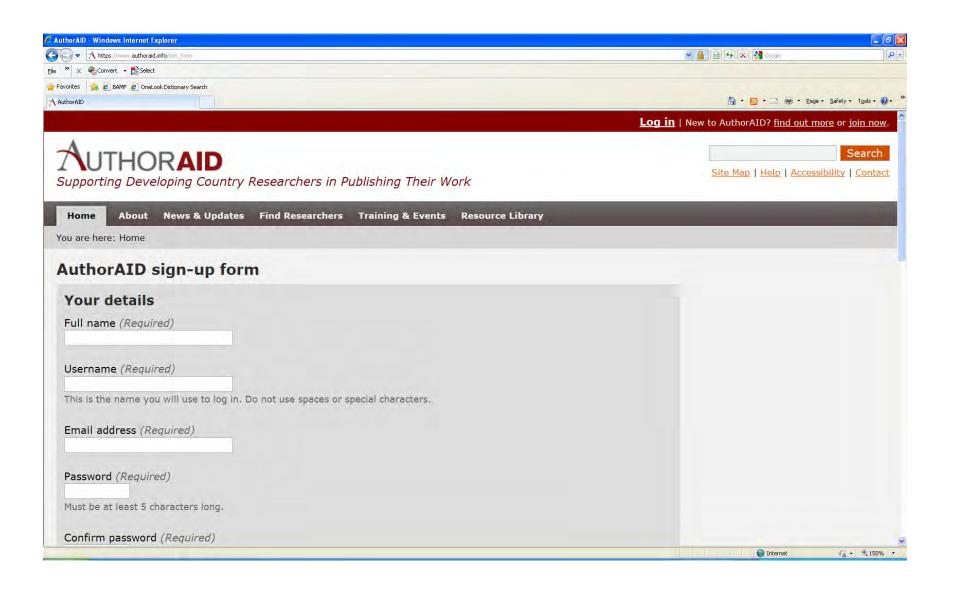


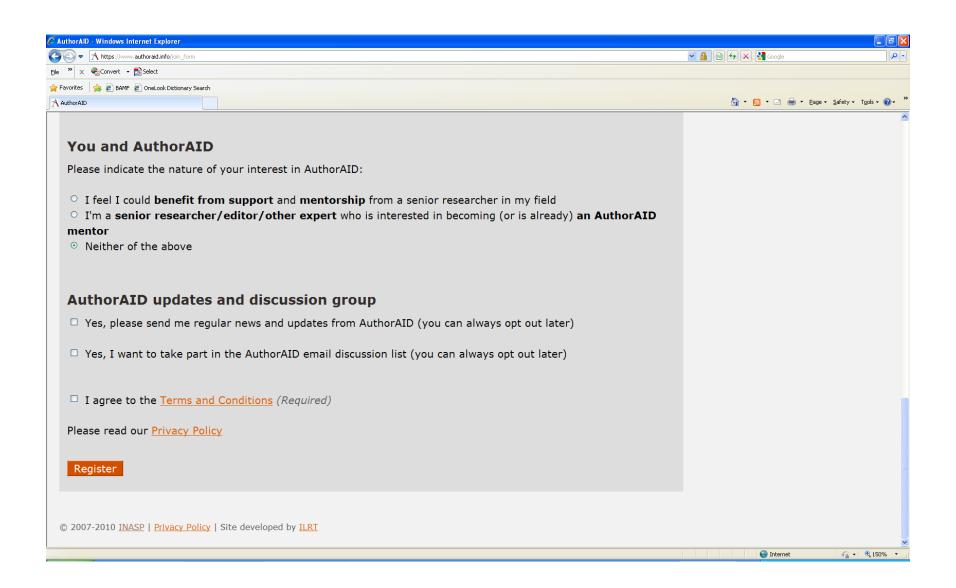
AuthorAID at INASP (www.authoraid.info)

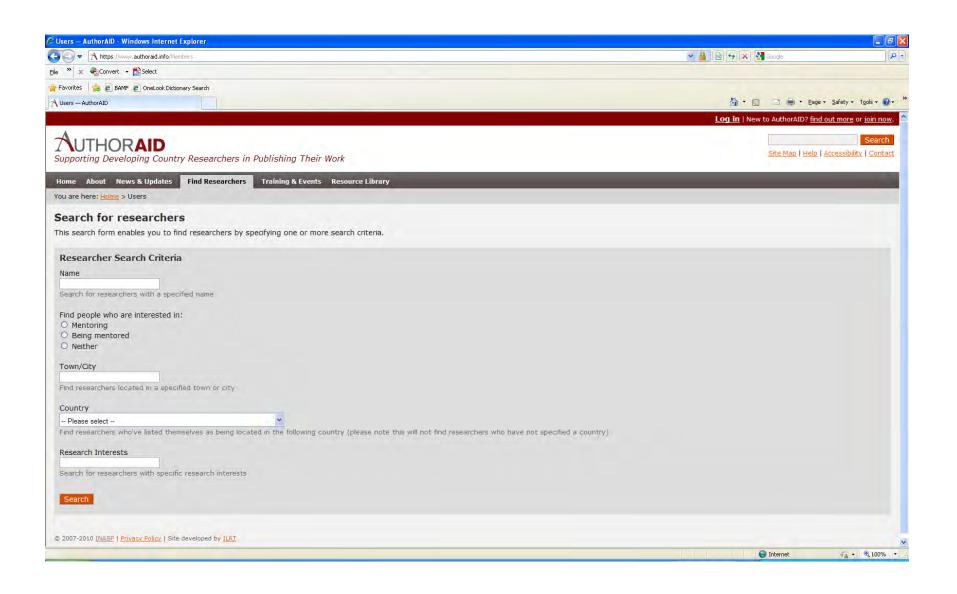
- A project to help researchers in developing countries to write about and publish their work
- Also can help researchers elsewhere
- Main components
 - Mentoring
 - Workshops
 - Openly accessible content (sort of a metaresource)

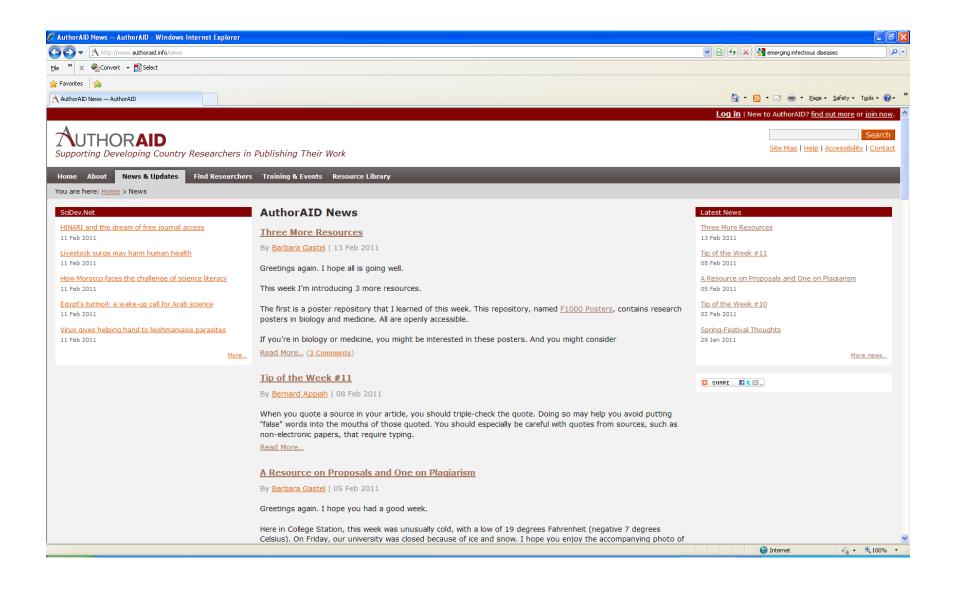


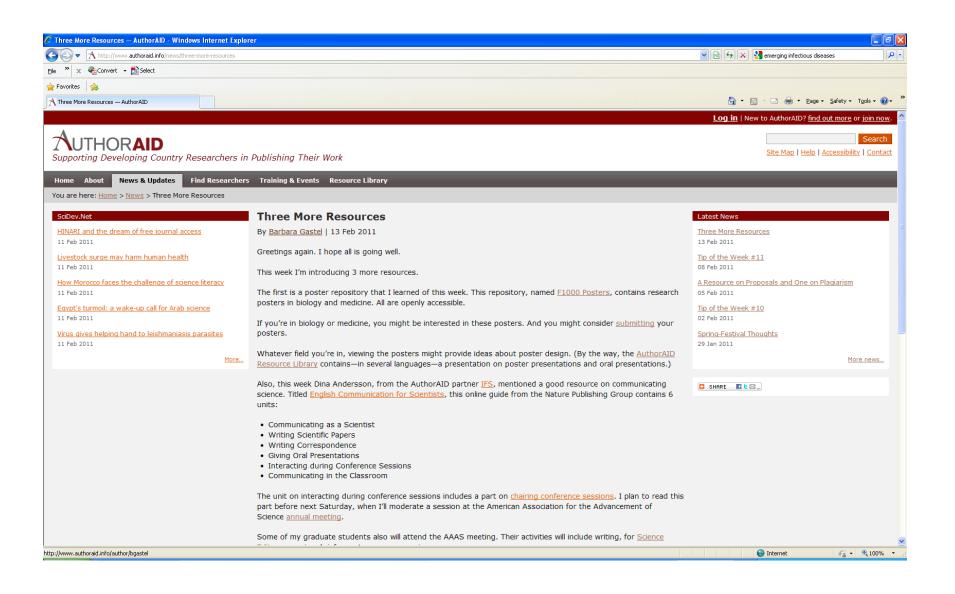


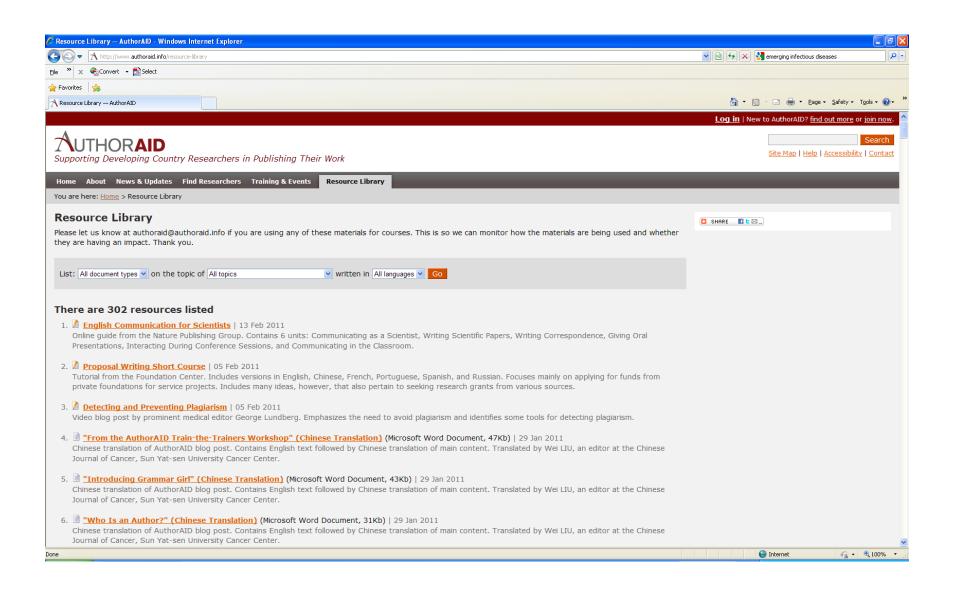


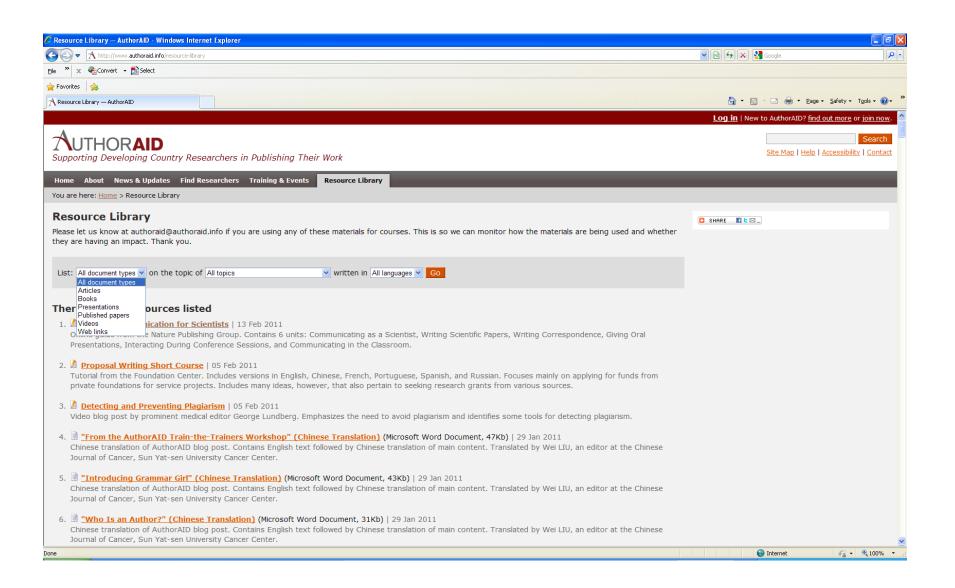


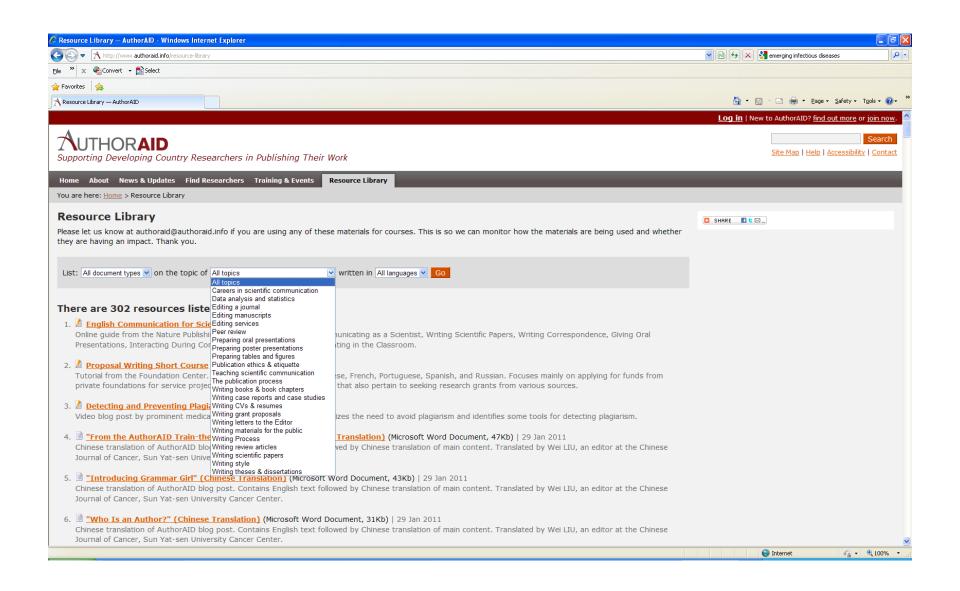


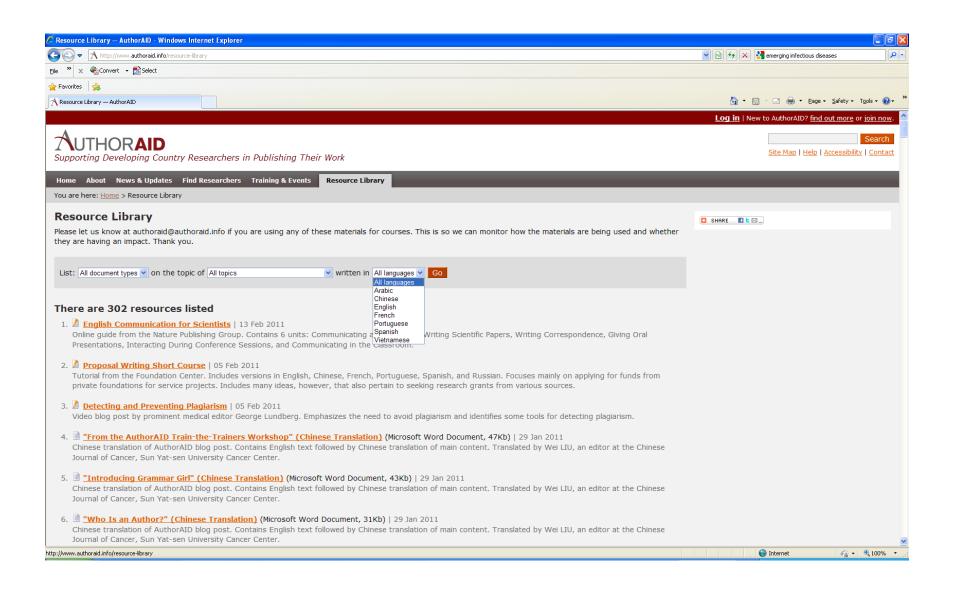












Some Other Resources

- Tips for Publishing in Scientific Journals (http://sciencecareers.sciencemag.org/career_m agazine/previous_issues/articles/2007_04_06/ca redit.a0700046)
- English Communication for Scientists
 (http://www.nature.com/scitable/ebooks/english-communication-for-scientists-14053993)
- On Being a Scientist: A Guide to Responsible Conduct in Research, 3rd edition (http://www.nap.edu/catalog.php?record_id=121
 92)

Other Resources (cont)

- The Elements of Style (www.bartleby.com/141/)
- OneLook Dictionary Search (<u>www.onelook.com</u>)
- Academic Phrasebank
 (www.phrasebank.manchester.ac.uk)
- Grammar Girl (grammar.quickanddirtytips.com)
- Advice on Designing Scientific Posters (<u>www.swarthmore.edu/NatSci/cpurrin1/posterad</u> <u>vice.htm</u>)

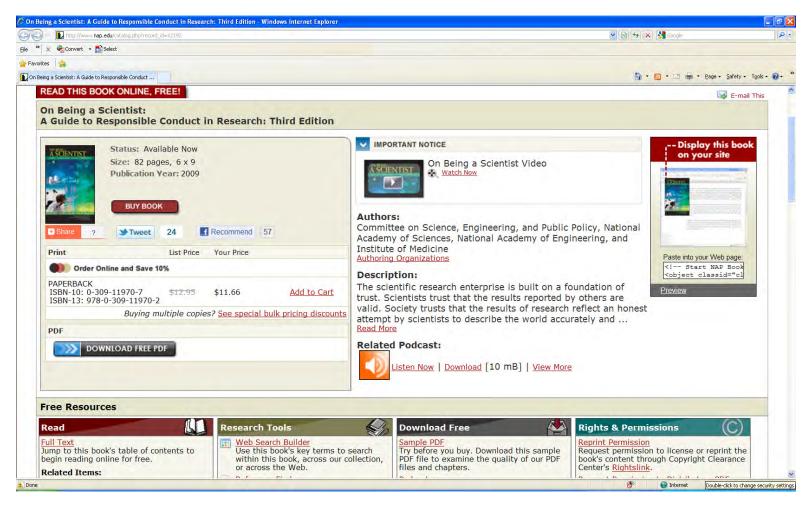
Tips for Publishing in Scientific Journals



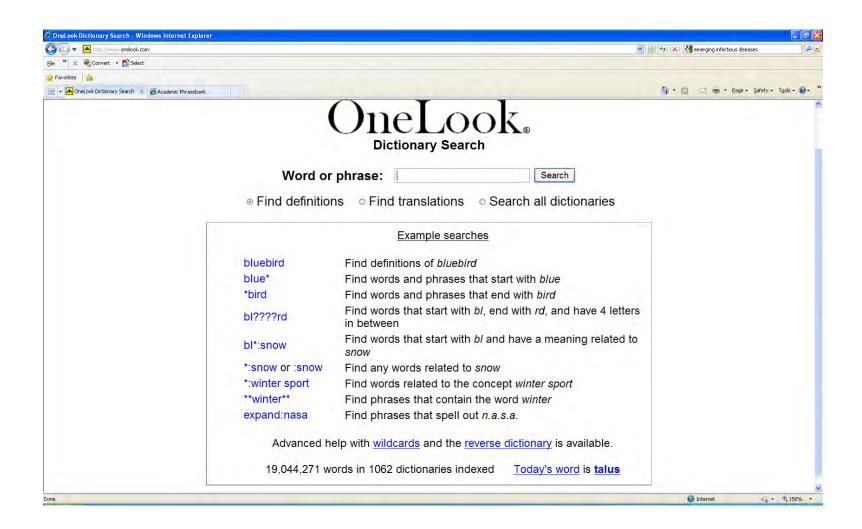
English Communication for Scientists



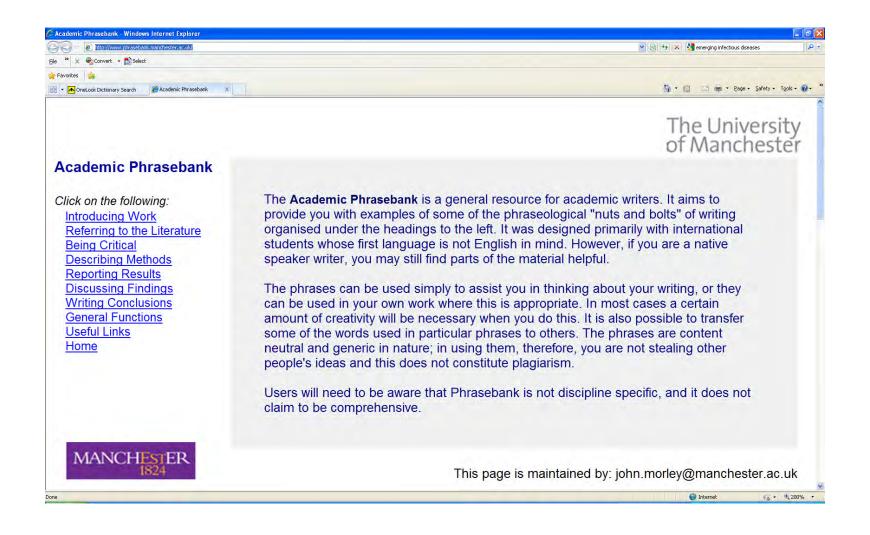
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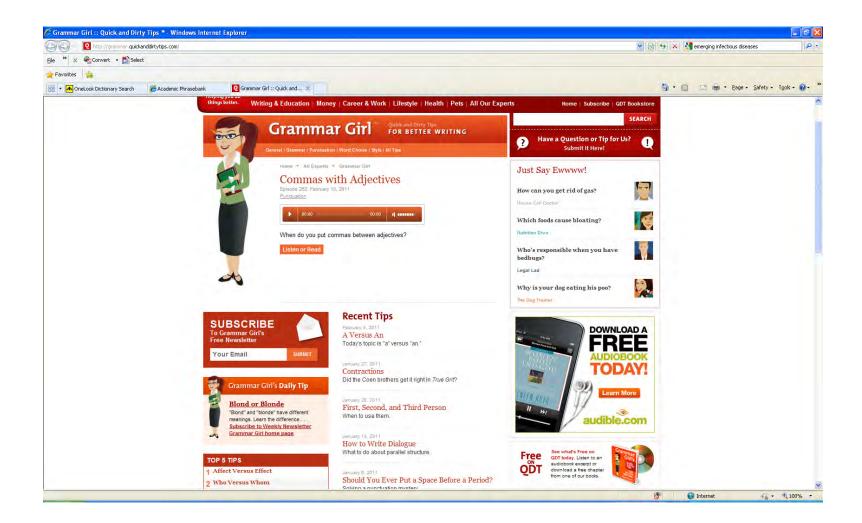
OneLook Dictionary Search



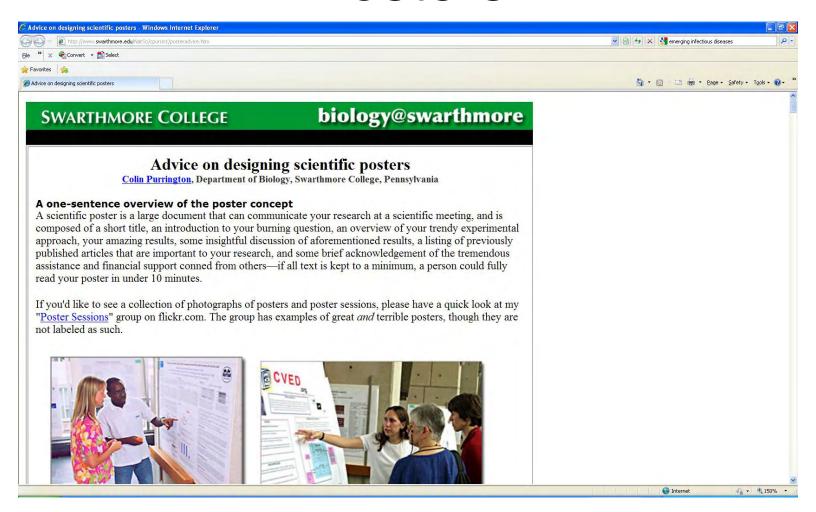
Academic Phrasebank



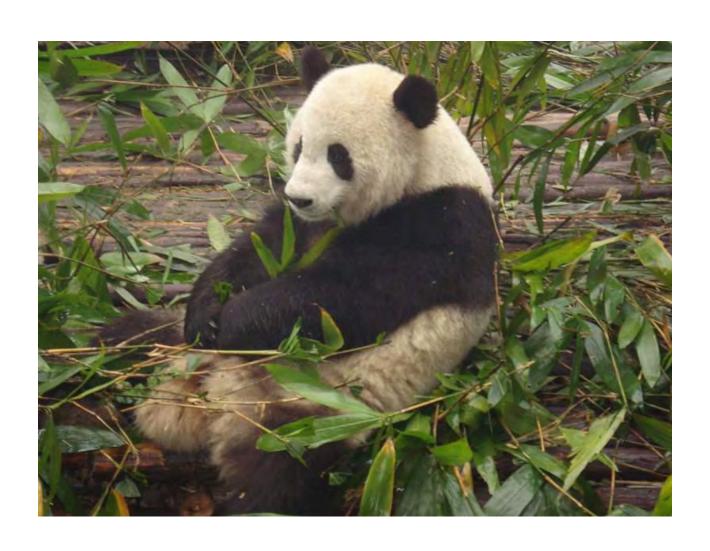
Grammar Girl



Advice on Designing Scientific Posters



Questions?



Note

The full version of this presentation will be posted in the AuthorAID resource library (http://www.authoraid.info/resource-library). Feel free to share it with others.

Wishing you much success!

