AJE is dedicated to helping international researchers succeed. In addition to providing services such as editing, translation, formatting, and figure preparation, we also want to share our expertise through educational materials.

This handout is a small sampling of tips about the different sections of your manuscript, the publishing process, and writing/translating your content.

If you have questions about academic writing in English or the publication process, you can write to us at AskAnExpert@aje.com.

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Manuscript Sections: Title and Abstract

1) Remember that editors must judge the paper quickly, so **make a good first impression.**
2) **The title and abstract are very important** (avoid a title that is too long or an abstract that is too short).
3) Headings and titles should be **descriptive phrases** rather than sentences – look at your running (short) title: it might be a better choice if your original title is longer than one line of text.
4) **Don't overextend** on the content of your title – it sets expectations and defines the scope. Reviewers will be looking for you to meet expectations.
5) **Do not use words like "novel" or "first time"** if you can find previously published articles by searching with a title similar to yours (editors and reviewers see these words as highly suspicious).
6) Your abstract should **clearly state the purpose**:
    a) Make sure you know the type of abstract required (structured or unstructured) for your selected journal.
    b) Explain why the reader should care about your research, but without too much background (save that for the introduction). Put the main points about your paper's importance up front; don't include a long lead-in. More than a sentence or two is probably too much.
    c) If you are not sure of the specific guidelines for your journal (or if you haven't selected one yet), you can use the guidelines provided by the National Library of Medicine (NLM).
    d) Be sure you adequately summarize the main points of the study.
    e) You should include the objective or hypothesis.
    f) You should summarize the methods used.
    g) You should summarize the most important results.
    h) You should summarize the important conclusions.
    i) If you want to abbreviate a phase that is repeated in the abstract, define the abbreviation at first use. If something is not repeated, don't abbreviate it; write it out.

Manuscript Sections: Introduction

1) Pretend that no one reads the abstract. Your introduction is the actual start of the paper.
2) Make sure all abbreviations are defined at first use.
3) Give background that explains the problem and current knowledge about it.
4) Try to use the most recent references you have available. In most areas of study, this means relevant references that are less than five years old.
5) Explain what researchers still need to understand/investigate. This description will lead directly into your objective statement for the present study.
6) The end of the introduction should clearly state your hypothesis/objective and briefly describe how you addressed the question experimentally. These statements should be logical to all readers after reading the background information. If this structure is followed, the Introduction will easily transition the reader into the next section (Materials and Methods or Results, depending on the journal's format).

Manuscript Sections: Materials and Methods

1) The basic question you are addressing in this section is, "how did my experiments lead me to answer my questions?" Make sure you thoroughly answer this question.
2) Look for journal requirements about specific statements you need to include in the experimental section regarding:
    i) Ethical animal treatment/committee approval
    ii) Approval for studies involving humans

   iii) Provenance for all cell lines and reagents (if these details are not included, the manuscript could be held up at the initial step and you will waste time)
3) Be sure that the experimental methods are explained in sufficient detail to be reproduced.
4) Do you have too many methods? If so, focus on the most relevant/important methods in this section. Excess experimental detail can be:
   i) Moved to a supplemental (online only) section.
   ii) Referenced (allowing you to shorten the description and omit common details).
5) Key items to include for all clinical studies:
   i) Inclusion/exclusion criteria for all subjects
   ii) Statement of written consent of all subjects
   iii) Conflict of interest statement

Manuscript Sections: Results

1) Find out if your target journal wants the Discussion and Results sections to be combined.
   a) If so, make sure you put the results in the context of previous work (indicate the relevance of results here **only** if the journal wants a combined Results and Discussion section).
2) The results should clearly address the objective of the study.
3) Data must be presented clearly.
   a) Don't use tiny labels or numbers; make sure figure legends provide a complete description so the reader doesn't have to flip back through the text for important details.
4) Be sure that you indicate significance for your data by including p values and a description of the statistical test(s) used.

Manuscript Sections: Figures

1) **"Think in Figures" before you collect your data.**
   a) Ask yourself: "When I do an experiment, what will I need to show to convince a critical person that the results are true?"
2) During your research, **treat every image/graph as if it could be a figure in your paper.**
   a) Use high resolution, include all controls, maintain a logical layout, etc.
3) **Do not submit a manuscript with a high number of figures.**
   a) Many journals have supplements. Stick to the three to five most important pieces of data.

Manuscript Sections: Discussion and Conclusions

1) In these sections, you must provide a good interpretation of the data presented.
2) Remember, if your experimental design cannot properly address your objective, if you overgeneralize the discussion of your results, or if your claims are too strong to be supported by your current data, the reviewer will not be able to seriously consider the manuscript.
3) If the journal permits, make a separate conclusion section to restate important points.
4) Base your conclusions on your data. Make sure that your conclusions directly relate to the data you have presented, and not on unstated (or unproven) assumptions.
5) The reader should be left with a clear understanding of why they should care about your research. Don't make them think about how it might be relevant, tell them!

6) Bring it back out to a broader application at the end. Go to a logical place in your conclusion. Restate the importance of your current research as it relates to the knowledge of the field (highlight the advancement you have achieved).
7) If you make a statement, make sure you have proven it and the logic is clear. Be critical of your own work and get other critical opinions from colleagues before submission.

Publishing: Choosing a Journal

1) **We recommend selecting a journal BEFORE you write your paper**, or even before you start your research! Tailoring a paper for a specific target journal can help improve your chances of success.
    a) **Do your research** and carefully compare journal characteristics – relevance, topic trends, scope, impact factor, acceptance rate, etc. Get as much knowledge as possible of your target journals.
        i) Enter different combinations of your key words into Google scholar, PubMed, Scirus (http://www.scirus.com/), or JANE (http://www.biosemantics.org/jane/index.php) to search. Look through the results to find journals that routinely publish on your specific topic – make a list for yourself to refer to later!
        ii) How many related publications has each potential target journal published in the last 5 to 10 years? If there are many articles on your specific topic and closely related topics, then that indicates that the journal will likely be interested in your research.
        iii) Read articles from these journals.
            (1) Do your planned experiments and techniques fit with the journal?
            (2) Are the typical sample sizes, technology, and other experimental scope indicators in line with your research?
        iv) If you have any questions later, you can e-mail the editor-in-chief an outline of your paper. Find out if they are interested in considering it for review before you submit formally. This step is particularly important for articles like reviews and case reports, which are published less frequently than the typical research article. You can save yourself from wasted effort and help accelerate the time to publication.
        v) Online-only journals can accept more papers.
            (1) Online journals have more space to publish – they aren't limited to a certain number of pages or even a set number of issues in some cases, so your chances of acceptance are a little better.
            (2) Many online journals also have impact factors, so they can be ranked among print journals.
            (3) *PLOS ONE* is the broadest online/open-access journal. They accept any sound science regardless of importance, but they get so many submissions that it will take time to get through their process.
        vi) Look for journals that are part of a consortium (sister journals).
            (1) Consortium journals will filter your submission down the chain to other journals (start at the top!).
            (2) This will save you time, and reviewer comments will be passed through. Look for consortium information in author instructions.

2) **After familiarizing yourself with journals that publish on your topic, think about:**
    a) Your ideal paper
    b) How your research fits into the field as a whole (does the rationale make sense given the previously published work?)
    c) The reason (justification) for doing the study
    d) The potential broader implications of your contributions

Publishing: Formatting, File Formats & References

1) **Manuscript Formatting**
   a) Proper formatting makes it easier for the journal to assess a manuscript – take the time to follow the author instructions, which communicates to the journal that you are thinking things through and have put in effort.
   b) When you can't find specific guidelines, general guidelines are better than none (e.g., NLM guidelines; see Resources on page 11).
   c) Always cite your figures and tables in the text and in numerical order.
   d) Be careful with abbreviations and acronyms.
      i) Most formatting guidelines specify that abbreviations should only be defined the first time they are used within the abstract and again the first time they are used in the body of the text. Thereafter, throughout the remainder of the paper, only the abbreviation/acronym should be used and not the words that the abbreviations/acronyms are meant to represent.
   e) Check for inconsistencies.
      i) Make sure you are consistent with terms throughout your paper. For example, when referring to groups, do not change the group names between or within the Materials and Methods and the Discussion or Conclusions sections (this is an immediate red flag with journal editors).
2) **File Formats**
   a) Many journals won't accept manuscripts in certain file formats.
      i) Check your guidelines to see if your journal requires .doc or .rtf instead of .docx files.
      ii) If you prefer to use LaTeX, check your guidelines early. Some journals do not accept .tex files.
   b) Figures must usually be submitted as separate files and are usually only acceptable in very specific file types, resolutions, and sizes.
3) **References**
   a) Place references according to the journal's instructions. Ethical issues can be raised if references are not listed in the correct location.
   b) Often there are not enough recent references in a paper. Try to use the most recent references you have available. In most areas of study, you will want to look for references within the past five years.
   c) Don't assume that you can use "et al." in your reference list. Some journals require that all author names are written out.
   d) Don't use authors' first initials in the citations.
      i) For example, use **Smith (2008)** and never **J. S. Smith (2008)**.
   e) Products like Reference Manager or EndNote can help you keep your references consistent.
      i) After you download the journal's style (format) for these products, make sure it matches the examples and instructions in the Author Guidelines (if not, open EndNote and go to the Edit menu --> Output Styles, where you can change many options and revise the citation/bibliography template). This is the same for Reference Manager.

Publishing: Authors

1) **Justify the roles of each author**
   a) Review each author's contributions and decide who should be in the acknowledgements vs. the author list.
2) **Get your author issues settled <u>before</u> you submit**
   a) Make sure to speak with anyone who might argue that they contributed to the paper (e.g., former postdocs who contributed data), and either list/acknowledge them on the paper or let them know why you are not including them.
   b) Make sure that everyone listed on the paper has been notified, and that they have access to the version of the paper that is being submitted.

c) Resolve any political or interpersonal author issues before you submit. You do not want to involve the journal in those conversations. If the editor starts getting e-mails from potential authors after submission, it will make them nervous about the paper, and will hold up the publication process.

Publishing: Cover Letter

1) This is your chance to convince the editor to send your paper out for review; grab their interest!
2) You can get away with a little more flowery, grandiose speech in a cover letter than you can in your abstract or introduction.
3) Use this letter to emphasize the highlights of your manuscript and tell why it would be exciting for that journal's readers.
4) Don't use the letter as an opportunity to speak negatively about your competitors or address any researcher politics. Focus on the strength of your work, and why others will want to read it.

Publishing: Rejection

1) If you have time, submit to a journal that you think is beyond your reach (hopefully you will get reviewed).
   a) If they ask you to revise and resubmit, that's not rejection! If you can follow the reviewers' suggestions and make them happy, you have a good chance of being accepted.
      i) See the "Resources" section at the end of this handout for an article on this topic.
   b) If you get rejected from your #1 target journal, don't be discouraged. Even the most successful researchers have been rejected multiple times. You can learn a lot from your rejections.
2) If you are able to reach the review step, even if you are ultimately rejected, the comments are very valuable for future submissions.
3) Follow the reviewers' recommendations – take their comments seriously. Even if you are rejected, their feedback is valuable for your next round of submission to the next journal on your list, as well as for future submissions to that journal.
4) Don't argue with the reviewer (even if you disagree) – the Editor, who has the final say on publication, relies heavily on the reviewer's judgment.
5) If you are resubmitting to the same journal (or to a journal that will re-use your previous review) and you disagree with a reviewer's suggestion, you must write a very compelling (and polite) response explaining why you did not address the point as the reviewer suggested. Wording the reviewer response diplomatically can make a big difference.
6) Check your e-mail more regularly after submission (and your spam folder also, in case things are being filtered). Sometimes the journal is waiting for you to respond about something, and you want to be sure to reply to them immediately.

Writing Tips: Editing

1) Run-on sentences:

a) Don't try to put too much into a single sentence. You may lose your reader's interest and create confusion and ambiguity.
b) Remember that long sentences are not necessarily better writing.
c) Instead of long sentences, you should use transitions between ideas (basic transitional words and phrases).
d) If multiple people write different parts of the manuscript, read through it for consistency.

2) **Wordiness** (number of words and phrases that clutter the language)
   a) **"and also"**
      (1) Generally, one of the words in this pair may be omitted:
      - *We acknowledge the teachers that participated in this research **and also** financial support from…*
      - *We acknowledge the teachers that participated in this research **and** financial support from…*

   b) **"as well as"**
      (1) Please take note of the difference in these two examples; the second example is more concise:
      - *However, given the total length of the spacer in the resin **as well as** in the RNHI (the spacer has a total length of 16 carbons), the inhibitory potency of the conjugated RNHI should retain most of the activity of the parent compound.*
      - *However, given the total length of the spacer in the resin **and** in the RNHI (the spacer has a total length of 16 carbons), the inhibitory potency of the conjugated RNHI should retain most of the activity of the parent compound.*

      (2) **"as well as"** is effective in cases of multiple conjunctions:
      - *Organics comprise a significant fraction of the fine aerosol mass that could greatly alter the optical properties **as well as** the deliquescence and crystallization points of the inorganic components of aerosols.*
      - *Rubinstein-Taybi syndrome is a rare developmental disorder characterized by craniofacial dysmorphisms, broad thumbs and toes **as well as** mental and statural deficiencies.*

   c) **"on the other hand"**
      (1) "On the other hand" should be paired with "On the one hand." Often, when "On the other hand" is employed, the author simply means "however," "in contrast," or "alternatively."

   d) **Other ways to reduce wordiness:**
      (1) "there were several subjects who completed…" → "several subjects completed…"
      (2) "four different groups" → "four groups"
      (3) "in close proximity" → "in proximity"
      (4) "also included" → "included"
      (5) "as can be seen in…" → "as seen in…"
      (6) "at the present time" → "currently" or "presently"
      (7) "due to the fact that" → "because"
      (8) "in order to" → "to"
      (9) "whether or not" → "whether"

3) Run-ons and comma splices

Example:
- *Under the new system, buyers can examine the finished houses and their surroundings before deciding to buy they can move in soon after purchase.*

We may make the two independent clauses into two separate sentences:
- *Under the new system, buyers can examine the finished houses and their surroundings before deciding to buy. They can move in soon after purchase.*

Or we may subordinate one clause to the other:
- *Under the new system, buyers can examine the finished houses and their surroundings before deciding to buy so that they can move in soon after purchase.*

- *Because the new system allows buyers to examine the finished houses and their surroundings before deciding to buy, they can move in soon after purchase.*

4) **Parallelism**
   a) **Parallel Structure**: It is best to keep items in a series, paired clauses, or any group of two or more elements of a sentence parallel by employing similar grammatical constructions.

Example:

- *Satellite DNA can be chromosome specific, species specific, or can characterize different species from a genus, family or even representatives of a given order.*
- *Satellite DNA can be chromosome specific or species specific, or it can characterize different species from a genus, family or even representatives of a given order.*

Here, it is best to divide the awkward construction into two separate independent clauses. Notice how each clause contains parallel grammatical constructions:

- Satellite DNA can be **chromosome specific** or **species specific**, or it can characterize different species from a **genus**, **family** or even **representatives** of a given order.

5) Incomplete comparisons

(a) Authors often leave incomplete comparisons within the text. If you are using a word such as *higher* or *greater*, be sure you give a relevant reference point.

Example: *"The dosage given to the treated rats was significantly higher."*
(Higher than what?)

Corrected: *"The dosage given to the treated rats was significantly higher than the dosage given to the control rats."*

6) Formal tone

a) Consider the following more formal substitutions for the phrases/words on the left:
   - level → concentration or frequency
   - deals with → addresses
   - 'about' or 'around' → approximately
   - very → considerably
   - very obvious differences → drastic differences
   - nowadays →currently
   - big → large or considerable
   - probably →likely
   - besides → moreover
   - point out → note
   - 'saw' or 'seen' → observed
   - get → obtain
   - take place →occur
   - done → 'performed' or 'conducted' (when describing experiments)
   - like → such as
   - enough →sufficient
   - "The study concluded that…" → "The *authors* concluded that…"

7) **Pronoun ambiguity**
   a) As a general rule, be clear and specific about your statements, and avoid using the following pronouns without explanation:
      - it
      - them
      - they
      - its
      - this
      - their

      Example: *"I had a cup of coffee and a doughnut, and it was good."*
      (Does "it" mean the coffee or the doughnut?)

Writing Tips: Spanish Translation

Things to consider if you are translating your own work, or before sending a manuscript for translation:

1) **Language should be concise.**
   a. Authors need to ask themselves "how can I make this understandable to an English-speaking audience?"
   b. Using too many words to convey a point will confuse both the reader and the translator

2) **Eliminate jargon** (language specific to an activity, profession, group or event) from the manuscript.
   a. Jargon is very difficult to translate.
   b. The jargon may have specific meanings that a translator will not be able to find in a dictionary.
   c. If the author needs to use a jargon word, she or he should define it in Spanish.
   d. If you are not using a translator with expertise in your area of study, you will need to be especially cautious about field-specific terminology. You may want a colleague in your field to review the translation to ensure that your meaning has not been changed, and that the terminology is correct.

3) **Eliminate local slang and region-specific vocabulary in manuscripts.**

4) **Spanish grammar allows for fairly long, complex sentences (run-on sentences). Translators have to divide the Spanish sentence into 2 or 3 English sentences.**

   For example: *El estudio del comportamiento animal es una disciplina que ha crecido muchísimo en los últimos años, en parte debido al avance de la genética, lo cual permite el uso de animales transgénicos para estudiar la contribución de ciertos genes al comportamiento, pero también debido a cambios en el paradigma de la relación del comportamiento animal con el comportamiento humano.*

   This could be translated as follows:
   Animal behavior is a discipline that has grown significantly in recent years, in part because of the advances in genetics, which allow the usage of transgenic animals to study the contribution of certain genes to behavior, but also because of changes in the paradigm guiding our understanding of the relationship between animal behavior and human behavior.

   However, this would be a bit of a run-on sentence in English. A second option would be the following:
   Animal behavior is a discipline that has grown significantly in recent years. One of the reasons for this growth are the advances in genetics allowing the study of the contribution of certain genes to behavior in transgenic animals. A second factor promoting this growth is the changes in the paradigm guiding our understanding of the relationship between animal behavior and human behavior.

Both options maintain the meaning of the original sentence. However, the second sentence is more "true" of what is expected in English language publications. Most complex sentences can be broken down in a similar manner.

5) **The comma is overlooked in Spanish papers.**
   a. Accurate placement of periods and commas will eliminate run-on sentences and greatly improve the quality of the manuscript.
   b. Translators find themselves adding commas, periods and semicolons to attempt to figure out where one idea ends and another begins as well as to eliminate ambiguity.

6) **Do not repeat the same phrases throughout the manuscript.**
   a. For example, "Es decir," "Por otro lado," and "Sin embargo"
   b. Some papers are just too long for the amount of content they are delivering, and excessive length can be a cause for rejection in high-impact journals.

7) **Other important tips:**
   a. Check for misspelled words that may be missed in translation
      i. Names of companies
      ii. Chemical compounds
      iii. Scientific names (italics, capitalization, etc.)
   b. Consistency
      i. Keep scientific words consistent throughout the manuscript and tables.
   c. Novel techniques
      i. Include citations or bibliography to help the translator look up the specific terminology and translate it in a way that is standard for English speakers in the field.
   d. Tables and figures
      i. Check to be sure you are using the correct abbreviation.
      ii. Make sure you are *consistently* using the correct abbreviation throughout your paper.
         1. *mg/L, mg/litro* and *mg/l*
   e. Usage of the passive voice

      Sentences translated from Spanish word for word can sound awkward in English. For example,

      "Se observó un aumento en la proporción de células que expresaban el gene X."

      Such sentences are not easy to translate into English. The direct translation would be the following:
      "It was observed an increase in the proportion of cells that expressed gene X."

      This sentence sounds very awkward in English. There are two ways of fixing the sentence:
      "We observed an increase in the proportion of cells that expressed gene X." (active voice)
      Or "An increase in the proportion of cells that expressed gene X was observed." (passive voice)

      Please note that some journals are very particular about the use of the passive or active voice. If the journal states a preference in its guidelines, follow their suggestion. In general, the passive voice leads to extra words and more confusing sentences. However, if the journal does not allow the use of '*we*' in the text, the passive voice may be your only option.

Additional Resources and Links

1) **Links for researching journals:**
   - Google scholar: http://scholar.google.com/
   - PubMed: http://www.ncbi.nlm.nih.gov/pubmed/
   - Scirus: http://www.scirus.com/
   - JANE: http://www.biosemantics.org/jane/index.php

2) **Article on resubmitting after rejection:**
   - *Science* Magazine online: "If at First You Don't Succeed, Cool Off, Revise, and Submit Again"; Lucas Laursen; August 15, 2008. http://sciencecareers.sciencemag.org/career_magazine/previous_issues/articles/2008_08_15/caredit.a0800123

3) **Good general book on academic publishing:**
   - *How to Write and Publish a Scientific Paper*, (seventh edition) Robert A. Day and Barbara Gastel, ISBN 0-313-33040-9 Greenwood Press, 2011

4) **Article series on paper writing on Bitesize Bio website:**
   - http://bitesizebio.com/articles/writing-your-first-or-next-paper-part-i/

5) **National Library of Medicine (NLM) structured guidelines for abstracts:**
   - http://www.nlm.nih.gov/bsd/policy/structured_abstracts.html

6) **NLM formatting guidelines:**
   - http://www.nlm.nih.gov/pubs/formats/recommendedformats.html

7) **AJE**
   - Manuscript preparation services (editing, translation, formatting, figure preparation) – http://www.aje.com/
   - If you have questions about grammar or English writing, please e-mail us at AskAnExpert@aje.com. We would be happy to assist you!