

245W: Sentence level revision for styleⁱ

Science writing is known for its clear and concise prose. It is also known for being dry and boring. The contrasting impressions of science writing stem from the fact that good writing skills are often underdeveloped in scientists. You will need to learn to master these skills over several years of practice, but for now, you can work on making sure that your writing gets across your thesis by carefully revising for style.

For clarity, read carefully through your own work and make sure all of your sentences are unambiguous in meaning. This means that your sentences should meet the following criteria in the least:

1. Each sentence should have a subject and verb

The lack of subject and/or verb often occurs when you try to write in the passive voice. While many scientists do use passive voice in their writing, it is not a requirement in most circles or journals anymore. I would say that it would be much better if you can get across the same professional standpoint with an active voice. For example, the following sentences are much improved when rewritten in the active voice (McMillan 2001):

(Original) Territory size was found to vary with population density.

(Rewrite) Territory size varied with population density.

(Original) Nest destruction was caused primarily by raccoons, particularly late in the incubation period, when greater access to nests was afforded to them by lowered water levels.

(Rewrite) Raccoons caused most nest destruction, particularly late in the incubation period when lowered water levels allowed them greater access to nests.

2. Try not to use vague pronouns such as this, that, it, and which.

Most sentences become confusing when you use these pronouns. For instance, it is unclear whether the following “this” refers to not being able to predict the number of adult males, or the daily variation in male density (McMillan 2001):

We could not predict the number of adult males likely to visit each breeding site because male density in the surrounding forest varied greatly from day to day. This is typical of most field studies on this species.

3. Because many terms used in science have specific scientific meanings that are slightly different from the colloquial sense, you must use these properly.

Here are some examples (McMillan 2001):

Correlated, random, significant – all of these terms should be used in the statistical sense

Rate – a rate should be a measurement over a certain unit of time
i.e. and *e.g.* – *i.e.* is the abbreviation for the latin phrase *id est*, or “that is”,
 whereas *e.g.* is short for *exempli gratia*, or “for example”
 Varying vs. various – varying means that a measure is changing over time or
 with changing circumstances, while various means different
 Fact, proof – there are very few scientific facts, most of what you think are
 facts would be classified as evidence or support for certain theories or
 hypotheses

For conciseness, you will be able to achieve quite a bit by doing just the following:

1. Do not hedge, and do not use modifiers such as very, quite, and rather.

It is important to be careful when drawing conclusions, but if your evidence is strong,
 you should make sure that it comes across as such. Take a look at the following
 example (Pechenik 2004):

(Original) This suggests the possibility that inductive interactions between
 cells may be required for the differentiation of nerve tissue.
 (Rewrite) This suggests that inductive interactions are required for the
 differentiation of nerve tissue.

2. Replace the following wordy phrases with its concise alternative (from McMillan
 2001; Knisely 2005):

A second point is that	second
More often than not	usually
It is apparent that	apparently
At the present time	now
In previous years	previously
Owing to the fact that, due to the fact that	because
based on the fact that	because
In light of the fact that	because
On account of	because
Despite the fact that, in spite of the fact that	although, though
It may be that	perhaps
These observations would seem to suggest	these observations suggest
One of the problems	one problem
In only a very small number of cases	occasionally, rarely
In the possible event that	if
So as to	to
With regard to	by, with
With the exception of	except
With the result that	so that
In a manner similar to	like
In dependent upon	depends on
It is also worth pointing out that	(omit)
Before concluding, another point is that	(omit)

It is interesting to note that	(omit)
In fact	(omit)
Functions to, serves to	(omit)

If you've been working on your structure and arguments, going through the list above should help with improving the readability of your paper.

Finally, I'll leave you with the following humorous list from Day and Gastel (2006):

The Ten Commandments of Good Writing

1. Each pronoun should agree with their antecedent.
2. Just between you and I, case is important.
3. A preposition is a poor word to end a sentence with.
4. Verbs has to agree with their subject.
5. Don't use no double negatives.
6. Remember to never split an infinitive.
7. Avoid clichés like the plague.
8. Join clauses good, like a conjunction should.
9. Do not use hyperbole; not one writer in a million can use it effectively.
10. About sentence fragments.

References

- Day, R. A., and B. Gastel. 2006. *How to Write and Publish a Scientific Paper*, 6th ed. Greenwood Press
- Knisely, K. 2005. *A Student Handbook for Writing in Biology*, 2nd ed. Freeman
- McMillan, V. E. 2001. *Writing Papers in the Biological Sciences*, 3rd ed. Bedford/St. Martin's
- Pechenik, J. A. 2004. *A Short Guide to Writing about Biology*, 5th ed. Pearson Longman

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