Everyone Can Write Better (and You Are No Exception)

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Everyone can write better, and you are no exception. The papers I have received from undergraduate and graduate students over the years illustrate a variety of common faults in academic writing. Not all of these faults are easy to fix, but many are. Here I will restrict myself to the easy ones. You will have to work out the hard ones for yourself.

Principle 1: Don't be pedantic.

Most students write as if they are *trying* to be pedantic, as if they *wanted* to sound like stuffy academics or old fogies. I am astonished at the lengths they go to. A few examples (all of my examples are from student papers):

a. In a broader sense, one might view much of the history of psychology in terms of the tension generated by these two seemingly contradictory components of the human organism, a history that has involved an oscillation between periods in which the field has focused primarily on motivational issues and periods in which it has focused principally on cognitive issues.

b. Initially construed as an embarassing [sic] error on the part of the perceiver, illusion came instead to be, at first a more powerful and exquisitely sensitive research instrument, and, later, the very hallmark of the human being's tremendous sophistication in "creating" knowledge and actively construing reality.

c. When irrefutable schema-inconsistent information is integrated, it will normally elicit a process known as causal attribution, which basically means that the perceiver will try to generate a hypothesis which explains the source of this inconsistent information.

d. The implications of these findings for the Vallone, Ross, and Lepper experiment concern the schema that each of the two groups above hold of the Arab-Israeli conflict.

If these sound good to you, you need to retrain your ear. If they sound bad, you should understand why. Here are some suggestions.

Rule 1. Never write a word or phrase you wouldn't use in conversation. Would you ever say aloud to anyone "the implications of these findings concern a schema" or "each of the two groups above" or "irrefutable schema-inconsistent information" or "these two seemingly contradictory components of the human organism" or "the former is more important than the latter"? I'll wager you wouldn't. If not, get rid of them. Not that writing is merely printed conversation. It isn't. Because it can be edited, written language can be much more concise and precise, and it also tends to be more

formal. But it is easy to overdo the formality, and most students do. Always ask yourself, "Could I say this in a conversation or lecture?" If the answer is no, start again.

Rule 2. Get rid of excess verbiage. (As Mark Twain put it, "Eschew surplusage.") Excess verbiage detracts from what you have to say. Too often it puts on full display how little you have to say. Take example *a* and compare my version:

> The history of psychology reflects a tension between two components. It has oscillated between a focus on motivation and a focus on cognition.

Shortening the original version has done no damage. The new version is clearer and surely less work to understand.

Rule 3. Never use a heavy, uncommon, or academic word or phrase where a lighter, commoner, or plainer one would do. In academic writing, you need a certain number of technical terms, such as "schema," "mutual exclusivity," "situational," "causal attributions," and "availability," to make your theories clear. But these terms also make your writing hard to read. Don't compound the problem by using pedantic words and phrases where you don't need to. Here are some common offenders (many cribbed from Flesch):

Pedantic:	**Replace with:**
Nouns:	
persons, individuals	people
subjects	other terms
Verbs:	
acquire	get, gain
attempt, endeavor	try
concerns	is about
constitutes	is
continue	keep up
employ	use
exists	is
supplement	add to
utilize	use
Prepositions and conjunctions:	
along the lines of	like
as to	about
concerning	about, on
for the purpose of	for
for the reason that	since, because
from the point of view of	for
inasmuch as	since, because
in favor of	for, to
in order to	to
in accordance with	by, under
in the case of	if
in the event that	if

in the nature of	like
in the neighborhood of	about
in terms of	in, for
on the basis of	by
on the grounds that	since, because
prior to	before
regarding	about, on
with a view to	to
with reference to	about (or leave out)
with regard to	about (or leave out)
with the result that	so that

Connectives:

accordingly	so
consequently	so
for this reason	so
furthermore	so
hence	so
in addition	besides, also
indeed	in fact
likewise	and, also
more specifically	for instance, for example
moreover	now, next
nevertheless	but, however
that is to say	in other words
thus	so
to be sure	of course

Other terms that can often be eliminated:

concerned
involved
respectively

You will get rid of most pedantic expressions by Rule 1, since they are ones you are unlikely to use in conversation. Note that you *can* use any of these expressions. Just make sure you have a good reason for doing so. Never put readers to extra work without a good reason.

Rule 3'. Avoid "which" whenever possible. Many English stylists insist that "which" should be used only for nonrestrictive relative clauses, or appositive clauses, as in: "I just sold my car, which was in terrible shape." They insist that "that" should be used in restrictive, or defining, relative clauses, as in: "I just saw a car that was in terrible shape." That is, you shouldn't use "which" as in: "I just saw a car which was in terrible shape." Now many good writers, especially in Britain, don't honor this distinction—though it isn't clear how they *do* distinguish the two words. But there is little doubt that "which" makes prose heavier, more ponderous, than "that." This is especially true when it is used in numbers. If you want to lighten up your writing—and you should want to—find ways of avoiding "which." Here is a useful algorithm for getting rid of unnecessary "which"s.

(a) Try deleting "which/who/that is/was/has been" wherever you find it.

(b) Try replacing "which" with "that." (You can do this if the clause is truly restrictive; you cannot if it isn't—if there is a comma before the "which."
(c) Then try deleting "that."
(d) Never apply rules *a* through *c* if it would change what you mean.

Apply this algorithm consistently and I guarantee that you will make your readers happier.

Rule 4. Divide complicated sentences into two or more sentences. Again, what you are writing about is hard enough to understand without overly complicated sentences. Get rid of them by cutting them in half or in thirds. Compare example *b* with this revision:

> Initially illusions were construed as an embarrassing error on the part of the perceiver. Later they came instead to be a more powerful and exquisitely sensitive research instrument, and still later, the very hallmark of the human being's tremendous sophistication in "creating" knowledge and actively construing reality.

This still is pretty awful. Take out the junk and here's what you get:

> At first, illusions were treated as embarrassing errors of the perceiver. Later, they were viewed as a powerful research instrument and, still later, as the hallmark of human sophistication in creating knowledge and construing reality.

Once you have a clear sentence, you can decide whether it is what you want to say.

Rule 5. Root out unneeded adjectives and adverbs. Adjectives and adverbs weigh down a sentence faster than most other expressions, so use them sparingly. Many are redundant, and others put readers to more work than they are worth. In the passage I just revised, I got rid of "more," "exquisitely sensitive," "very," "tremendous," and "actively." The commonest offenders are:

(a) *intensifiers* like "very" and "extremely," which usually lead to overstatement;

(b) *evaluative adjectives* like "exciting," "surprising," "important," and "interesting," which presume on the reader's own judgment; and

(c) *adverbs* like "basically," "essentially," and "simply," which often just waste space.

There are many more.

The advice I have offered so far follows three basic rules of good writing proposed by Gowers in *The Complete Plain Words*:

> Use no more words than are necessary to express your meaning, for if

> you use more you are likely to obscure it and to tire your reader. In particular do not use superfluous adjectives and adverbs and do not use roundabout phrases where single words would serve.
>
> Use familiar words rather than the far-fetched, if they express your meaning equally well; for the familiar are more likely to be readily understood.
>
> Use words with a precise meaning rather than those that are vague, for they will obviously serve better to make your meaning clear; and in particular prefer concrete words to abstract, for they are more likely to have a precise meaning.

Gowers' book has much more advice than this. It is worth studying.

Principle 2: Make your writing lively.

Some approaches to writing lead naturally to lively prose, and others to deadly prose. Too many students choose the deadly course. Here are some ways of animating what you say.

Rule 6. Center your writing, where possible, on people and what they do. Most academic writing is about abstract ideas, so it is hard to be concrete. But in psychology our natural subject matter is people and what they do. Putting them at the center should make it be easy to be concrete. Yet most students resist that temptation and shove them into the background. Compare example *c* with this minimal revision:

> When people try to integrate irrefutable schema-inconsistent information, they will normally use a process known as causal attribution, which basically means that they will try to generate a hypothesis that explains the source of the inconsistent information.

All I have done is make the implicit subject—people—explicit. That made the process seem more concrete and, incidentally, forced me to use the active instead of the passive voice. Both of these consequences are desirable. Example *c*, of course, could be improved in other ways too.

Rule 6'. Do not, however, center your writing on previous researchers and what they *did.* It is all too easy to name one scholar after another and describe what they claimed, as in these two examples:

> Tversky and Kahneman (1983) review the literature in which people making certain decisions under uncertainty fail to take base-rates into account.
>
> Markman (1987) points out that the way young children succeed at acquiring the concepts that their language encodes so quickly is that they are limited in the kinds of hypotheses they consider.

Ordinarily you will want to focus on how people think and behave and not on

what scholars have to say about this. You will undermine that purpose if you place the scholars in the subject position. In the examples just cited, the sentences are about Tversky and Kahneman, and about Markman, and they shouldn't be. Put the scholars in secondary locations, in subordinate clauses or in parentheses, as in these revisions:

> People making certain decisions under uncertainty fail to take base-rates into account (Tversky & Kahneman, 1983).
>
> How do children succeed at acquiring the concepts that their language encodes so quickly? According to Markman (1987), it is because they are limited in the kinds of hypotheses they consider.

In both revisions the focus is back where it belongs—on people and their psychological processes. Occasionally, you will want to focus on the researchers themselves, but that should be rare.

Rule 7. Prefer the active over the passive voice. Why? The active voice is usually more concrete. It forces you to make the subject explicit—compare "when information is integrated" with "when people integrate information"—and that makes the sentence more vivid. It also prevents you from using one of the weakest constructions in English, the one that ends with a passive verb, as here:

> The many decisions regarding issues and options of well-being measurement should always be carefully weighed and considered.

In English, we expect sentences to end with new information, so sentences like this fall flat. (Just remember the rule: "Sentences that end with verbs should be assiduously avoided.") Get rid of the passive and your prose will become more animated.

Rule 8. Avoid nominalizations, especially the first time you mention an action or property. A nominalization is a verb or adjective turned into a noun. They are deadening because they make concrete concepts abstract, and because they tempt you into omitting the concrete people and objects that are acting. In this example, the nominalizations are in italics.

> Regardless of the *truth* or *falsity* of the notion that *covariance computations* are natural *assessments* which underlie the conjunctive [sic, should be *conjunction*] fallacy, it is the spirit of the hypothesis and the level on which it is pursued which are critical to my example.

Compare this revision:

> Whether or not people who commit the conjunction fallacy rely on natural assessments in which they compute covariation, it is the spirit of the hypothesis and the level on which it is pursued which are critical to my example.

The version, which eliminates all but the technical nominalizations, is more

concrete and probably easier to understand. The sentence is clearly in need of other work.

Rule 9. Do not begin sentences with the empty "it." An example:

> *It is possible that* subjects evaluate their answer's correctness by the ease with which they can generate reasons that support this answer.

Sentences like this are weak because they place what is important in a subordinate position. They are easy to revise, as here:

> Subjects *may* evaluate their answer's correctness by the ease with which they can generate reasons that support this answer.

Here are some common offenders:

Replace:	**With:**
It is often the case that they	They often
It may be true that they	They may
It is obvious that	Obviously

There are many more.

Rule 10. In reporting data, describe your findings, not your statistics. One of the banes of good writing in psychology is statistical jargon. When you describe what you found in an experiment, you may be tempted to write like this (from a journal article):

> The analysis of variance for the total number of items recalled on the House passage indicated only a significant effect of recall period, $F(1,84) = 19.92$, $p < .001$. All other Fs were not significant.

Now what are we readers interested in? Surely not the analysis of variance *per se*. The only way the author thinks about his data is as entries in an analysis of variance table. But we want to know the pattern of results, and the author never tells us. Why didn't he say this:

> Subjects who read the House passage recalled an average of one item more after one day's delay than after two, $F(1,84) = 19.92$, $p < .001$. There were no other reliable differences.

This way we hear about the findings and can look at the statistics if we want to.

So organize your writing around your findings and demote statistical talk to subordinate positions—subordinate clauses, parentheses, anywhere but prominent places. And get rid of as much jargon as you can. Never use phrases like these if you can possibly help it: "significant main effect," "interaction," "is a function of," and "2X2X2 split plot design." Rarely will your experimental design be so complicated that you have to describe the type of ANOVA you used. If your readers know analysis of variance well enough to understand your jargon, they know it well enough to figure out your design.

Remember: you will be far more fluent about your statistics and experimental design than your readers. Write with them in mind.

An anecdote. Years ago I sent an experimental paper of mine to a well known linguist. I thought he would be interested because my findings applied directly to a claim he had made. He never replied, so later I asked him why. He said he had tried to read the paper, but he couldn't get through the statistics. Now, as readers go, he is very sophisticated—he has an MIT degree in mathematics—and yet my statistical jargon had discouraged him from reading a paper I had written with him in particular in mind. Don't make the same mistake. Every feature of your writing that makes it harder to read eliminates potential readers, and most of us need every reader we can get.

Principle 3: Be professional.

Rule 11. Avoid sexist language—but do so unobtrusively. There is evidence that many people interpret the generic "he" (as in "Every student should pick up his exam before leaving") to refer to males and not to males and females. How can you avoid this bias? Here is *not* a way:

> For example, in the first stage a 3 year old child scares him/herself while telling a story about a monster.

Expressions like "he/she" and "him/herself" are abominations. They are something you would never say aloud—the ultimate in pedantic language—and, worse, they call attention to themselves and the sexism they are trying to cure.

There are three ready solutions for most sexist language. The first is to use the plural, as in this sentence from the same paper:

> In the third stage, children tend to stay in the fantasy, but act as they would in reality.

"Children ... they" covers both sexes. The second is to introduce the actual sex of the person being described, as in this revision of the passage I cited:

> For example, in the first stage a 3-year-old girl might scare herself while telling a story about a monster.

Be sure that half of your examples use males and half use females. The final option is to use "he or she." This is a bit painful to the ear, but it is something we could say in a lecture or conversation.

Rule 12. Check your spelling. Nothing looks more unprofessional than a paper, even a draft, with typos and misspellings. Example *b* misspells "embarrassing," and that stops us, irritates us, and invites us judge the writer as ignorant or uncaring. Today, with spelling checkers on every computer, there is no excuse for misspellings.

Rule 13. Put your writing in the correct format. Papers in the wrong

format also look unprofessional. For journal articles, check the *Publication Manual of the American Psychological Association* for proper formats for paragraphs, tables, footnotes, titles, abstracts, references, and figures. The *Manual*'s recommendations, however, are really intended to help printers, not readers, so when writing for colleagues, I always place tables and figures in the text where they belong. With word processors, it is easy to turn the readable format into APA format when needed. The point is this. For many readers, a sloppy form can spoil a paper, and that reflects badly on you. With word processors and their capabilities, there is also no excuse for bad formatting.

In writing, your goal is to communicate—to get your readers to understand what you are about. The advice I have offered is to help you do that more effectively. Writing well takes work, but the rewards are great. Half of doing science is writing, so until you write well, you will never be more than half a scientist.

Useful References

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