

## Word Usage in Scientific Writing

Original Source: Iowa State U Ag Communications

This listing includes some of the troublesome words, terms, and expressions most frequently found in Experiment Station journal paper and bulletin manuscripts.

Any glossary of word usage assumes that what is acceptable for some uses may not be for others. Some terms and expressions are worn-out clichés and have outlived their usefulness; other expressions and terms, though not incorrect, are not precise. In reporting and recording research, try to be as accurate and precise in describing it as in doing it. Avoid the ambiguous and "faddish." For the benefit of international readers, especially, use standard words in their established meanings.

1. **Above** ("the above method," "mentioned above," etc.) -- Often, you are referring to something preceding, but not necessarily *above*; a loose reference, convenient for writers, but not for readers. Be specific. You know exactly what and where, but your readers may have to search (sometimes through much preceding material).
2. **Affect, effect** -- Affect is a verb and means to *influence*. Effect, as a verb, means to *bring about*; as a noun, effect means *result*.
3. **All of, both of** -- Just "all" or "both" will serve in most instances.
4. **Alternate, alternative** -- Be sure which you mean.
5. **And** (to begin a sentence) -- Quite proper. You have been told not to do this in grade school. But teacher's purpose was to keep you from using fragmentary sentences; either "and" or "but" may be used to begin complete sentences. And both are useful transitional words between related or contrasting statements.
6. **Apparently (apparent)** -- means *obviously, clearly, plainly evident*, but also means *seemingly* or *ostensibly* as well as *observably*. You know the meaning that you intend, but readers may not. Ambiguity results. Use *obvious(ly), clear(ly), seeming(ly), evident(ly), observable* or *observably*, etc., as needed to remove doubt.
7. **Appear, appears** -- Seem(s)? "He always *appears* on the scene, but never *seems* to know what to do." "Marley's ghost *appeared* but *seemed* harmless."
8. **As** -- Dialectal when used in place of *that* or *whether*; do **not** use *as* to mean *because* or *inasmuch as*.
9. **At the present time, at this point in time** -- Say "at present" or "now" if necessary at all.
10. **Below** -- See comment about *above*.
11. **But** (to begin a sentence) -- Go right ahead (see "And" and "However").
12. **By means of** -- Most often, just "by" will serve and save words.
13. **Case** -- Can be ambiguous, misleading, or ludicrous because of different connotations; e.g., "In the case of Scotch whiskey,...." *Case* also is a frequent offender in padded, drawn-out sentences. For "in this case," try "in this instance."
14. **Commas and punctuation** -- Not precisely a word-usage matter except in relation to how words are put together. The trend is toward less punctuation (particularly fewer commas), but that demands careful writing, without misplaced or dangling elements. Do **not** omit commas before the conjunctions in compound sentences. Most journals, but not all, use final commas before "and" or "or" in series; check the journal.
15. **Compare with, compare to** -- Compare *with* means to examine differences and similarities; compare *to* means to represent as similar. One may conclude that the music of Brahms compares *to* that of Beethoven, but to do that, one must first compare the music of Brahms *with* that of Beethoven.
16. **Comprise** -- Before misuse, comprise meant to contain, include, or encompass (not to constitute or compose) and still does, despite two now opposite meanings. Use and meanings now are so confused and mixed that "comprise" is best avoided altogether.
17. **Correlated with, correlated to** -- Although things may be *related to* one another, things are *correlated with* one another.
18. **Different from, different than** -- Different from! Also, one thing *differs from* another, although you may *differ with* your colleagues.
19. **Due to** -- Make sure that you don't mean *because of*. Due is an adjective modifier and must be directly related to a noun, **not** to a concept or series of ideas gleaned from the rest of a statement. "Due to the fact that..." is an attempt to weasel out.
20. **During the course of, in the course of** -- Just use "during" or "in."

21. **Either....or, neither...nor** -- Apply to no more than two items or categories. Similarly, *former* and *latter* refer only to the first and second of only two items or categories.
22. **Etc.** -- Use at least two items or illustrations before "and so forth" or "etc."
23. **Experience(d)** -- To experience something is sensory; inanimate, unsensing things (lakes, soils, enzymes, streambeds, farm fields, etc.) do not experience anything.
24. **Following** -- "After" is more precise if "after" is the meaning intended. "After [not *following*] the procession, the leader announced that the ceremony was over."
25. **High(er), low(er)** -- Much too often used, frequently ambiguously or imprecisely, for other words such as *greater, lesser, larger, smaller, more, fewer*; e.g., "Occurrences of higher concentrations were lower at higher levels of effluent outflow." One interpretation is that greater concentrations were fewer or less frequent as effluent volume(s) increased, but others also are possible.
26. **However** -- Place it more often within a sentence or major element rather than at the beginning or end. "But" serves better at the beginning.
27. **Hyphening of compound or unit modifiers** -- Often needed to clarify what is modifying what; e.g., a small-grain harvest (harvest of small grain) is different from a small grain harvest (small harvest of *all* grain), a fast *acting* dean isn't necessarily as effective as a fast-acting dean, a batch of (say, 20) 10-liter containers is different from a batch of 10 [1-] liter containers, *and a man eating fish is very different from a man-eating fish!* Grammatically, adjectives are noun modifiers, and the problem is when adjectives and nouns are used to modify other adjectives and nouns. **Adverbs** (usually with "ly" endings), however, **are** adjective modifiers.
28. **In order to** -- For brevity, just use "to"; the full phrase may be used, however, [in order] to achieve useless padding.
29. **Irregardless** -- No, *regardless*. But *irrespective* might do.
30. **It should be mentioned, noted, pointed out, emphasized, etc.** -- Such preambles often add nothing but words. Just go ahead and say what is to be said.
31. **It was found, determined, decided, felt, etc.** -- Are you being evasive? Why not put it frankly and directly? (And how about that subjective "felt"?)
32. **Less(er), few(er)** -- "Less" refers to quantity; "fewer" to number.
33. **Majority, vast majority** -- See if *most* will do as well or better. Look up "vast."
34. **Myself** -- Not a substitute for me. "This paper has been reviewed by Dr. Smith and myself" and "The report enclosed was prepared by Dr. Jones and myself" are incorrect as is "Don't hesitate to call Dr. Doe or myself"; *me* would have been correct in all instances. (Use of *I* also would have been wrong in those examples.) Some **correct** uses of *myself*: I found the error myself. I myself saw it happen. I am not myself today. I cannot convince myself. I locked myself out of the car.
35. **Partially, partly** -- Compare the meanings (see also *impartially*). *Partly* is the better, simpler, and more precise word when partly is meant.
36. **Percent, percentage** -- Not the same; use percent only with a number.
37. **Predominate, predominant** -- *Predominate* is a verb. *Predominant* is the adjective; as an adverb, *predominantly* (not "predominately").
38. **Prefixes** -- (mid, non, pre, pro, re, semi, un, etc.) -- Usually not hyphenated in U.S. usage except before a proper name (pro-Iowa) or numerals (mid-60s) or when lack of a hyphen makes a word ambiguous or awkward. *Recover* a fumble, but perhaps *re-cover* a sofa. *Preengineered* is better hyphenated as *pre-engineered*, one of the few exceptions so hyphenated. Breaking pairs such as *predoctoral* and *postdoctoral* into *pre- and post-doctoral* "forces" hyphenating of both otherwise unhyphenated words.
39. **Principle, principal** -- They're different; make sure which you mean.
40. **Prior to, previous to** -- Use *before, preceding, or ahead of*. There are *prior* and *subsequent* events that occur before or after something else, but *prior to* is the same kind of atrocious use that attempts to substitute "subsequent to" for "after."
41. **Proven** -- Although a *proven* adjective, stick to *proved* for the past participle. "A *proven* guilty person must first have been *proved* guilty in court."
42. **Provided, providing** -- *Provided* (usually followed by "that") is the conjunction; *providing* is the participle.

43. **Reason why** -- Omit *why* if reason is used as a noun. The reason is...; or, the reason is that... (i.e., the reason is the why).
44. **Since** -- has a time connotation; use "because" or "inasmuch as" when either is the intended meaning.
45. **Small in size, rectangular in shape, blue in color, tenuous in nature, etc.** -- Redundant.
46. **That and which** -- Two words that can help, when needed, to make intended meanings and relationships unmistakable, which is important in reporting scientific information. If the clause can be omitted without leaving the modified noun incomplete, use *which* and enclose the clause within commas or parentheses; otherwise, use *that*. Example: "The lawn mower, *which is* broken, is in the garage." But, "The lawn mower *that is* broken is in the garage; so is the lawn mower *that* works." ...*That is broken* specifies the particular mower being discussed, whereas *which is broken* merely adds additional information to the sentence.
47. **To be** -- Frequently unnecessary. "The differences were [found] [to be] significant."
48. **Varying** -- Be careful to distinguish from *various* or *differing*. In saying that you used varying amounts or varying conditions, you are implying **individually changing** amounts or conditions rather than a selection of various or different ones.
49. **Where** -- Use when you mean *where*, but not for "in which," "for which," etc.
50. **Which is, that were, who are, etc.** -- Often not needed. For example, "the data that were related to age were analyzed first" means that the *data related to age* were analyzed first. Similarly, for "the site, which is located near Ames," try "the site, located near Ames" or "the site, near Ames." Rather than "all persons who were present voted," just say that "all persons present voted." Rephrasing sometimes can help. Instead of "a survey, which was conducted in 1974" or "a survey conducted in 1974," try "a 1974 survey."
51. **While** -- Preferably not if, *while* writing, you mean *and*, *but*, *although*, or *whereas*.

Remember that a research report should communicate and record information as accurately and concisely as possible. The purpose is to report, not to impress with elegance. Excess wordage, tortuous construction, unnecessary detail, duplication, repetition, third-person passive pseudo-objectivism, etc., obstruct rather than facilitate communication. It's the message that is important, not sheer numbers of words. Use precise words and expressions of unmistakable meaning; avoid the clouded, ambiguous, vague, and needlessly complex.

### **Beware of misplaced or dangling modifiers and pronoun antecedent problems.**

The difficulty here is that you, as the author, know exactly to which each has reference even though not explicitly stated. Your reader, however, doesn't have this advantage, and the result may be confusing, misleading, or funny. EXAMPLES:

#### **Modifier problems**

1. *"Using multiple-regression techniques, the animals in Experiment I were..."*
2. *"Based only on this doubtful inference, we find the conclusions not supported."*
3. *"The determinations were made on samples using gas chromatography."*
4. *"In assessing the damage, the plants exhibited numerous lesions."*
5. *"The spiders were inadvertently discovered while repairing a faulty growth chamber."*
6. *"Settling in the collected effluent, we observed what was determined to be..."*

#### **Ambiguous pronoun antecedents**

1. *"The flavor was evaluated by an experienced taste panel, and it was deemed obnoxious."*
2. *"All samples in Lot II were discarded when the authors found that they were contaminated with alcohol, rendering them unstable." [and unable to think clearly?]*
3. *"The guidelines were submitted to the deans, but they subsequently were ignored."*

## Misplaced and Dangling Modifiers

U Ottawa The Writing Centre [HyperGrammar](#)

<http://arts.uottawa.ca/writingcentre/en/hypergrammar/modifiers>

You have a certain amount of freedom in deciding where to place your [modifiers](#) in a [sentence](#):

We rowed the boat **vigorously**.  
We **vigorously** rowed the boat.  
**Vigorously** we rowed the boat.

However, you must be careful to avoid **misplaced modifiers** -- modifiers that are positioned so that they appear to modify the wrong thing.

In fact, you can improve your writing quite a bit by paying attention to basic problems like misplaced modifiers and dangling modifiers.

### **Misplaced Words**

In general, you should place single-word modifiers near the word or words they modify, especially when a reader might think that they modify something different in the sentence. Consider the following sentence:

[WRONG] After our conversation lessons, we could understand the Spanish spoken by our visitors from Madrid **easily**.

Do we *understand* the Spanish easily, or do the visitors *speak* it easily? This revision eliminates the confusion:

[RIGHT] We could **easily** understand the Spanish spoken by our visitors from Madrid.

It is particularly important to be careful about where you put **limiting modifiers**. These are words like "almost," "hardly," "nearly," "just," "only," "merely," and so on. Many writers regularly misplace these modifiers. You can accidentally change the entire meaning of a sentence if you place these modifiers next to the wrong word:

[WRONG] Randy has **nearly** annoyed every professor he has had. (he hasn't "nearly annoyed" them)

[WRONG] We **almost** ate all of the Thanksgiving turkey. (we didn't "almost eat" it)

[RIGHT] Randy has annoyed **nearly** every professor he has had.

[RIGHT] We ate **almost** all of the Thanksgiving turkey.

### **Misplaced Phrases and Clauses**

It is important that you place the modifying phrase or clause as close as possible to the word or words it modifies:

[WRONG] By accident, he poked the little girl with his finger **in the eye**.

[WRONG] I heard that my roommate intended to throw a surprise party for me **while I was outside her bedroom window**.

[WRONG] **After the wedding**, Ian told us at his stag party that he would start behaving like a responsible adult.

[RIGHT] By accident, he poked the little girl **in the eye** with his finger.

[RIGHT] **While I was outside her bedroom window**, I heard that my roommate intended to throw a surprise party for me.

[RIGHT] Ian told us at his stag party that he would start behaving like a responsible adult **after the wedding**.

### **Squinting Modifiers**

A **squinting modifier** is an ambiguously placed modifier that can modify either the word before it or the word after it. In other words, it is "squinting" in both directions at the same time:

[WRONG] Defining your terms **clearly** strengthens your argument. (does defining "clearly strengthen" or does "defining clearly" strengthen?)

[RIGHT] Defining your terms **will clearly** strengthen your argument. *OR A clear definition* of your terms strengthens your argument.

## ***Split Infinitives***

The infinitive form of the verb consists of the word "to" followed by the base form of the verb: "to be," "to serve," "to chop," etc. Inserting a word or words between the "to" and the verb of an infinitive creates what is known as a **split infinitive**. Prescriptive grammarians, who knew Latin grammar better than English, once decreed that a split infinitive was an error, but now it is growing increasingly acceptable even in formal writing. Nevertheless, some careful writers still prefer to avoid splitting infinitives altogether.

In general, you should avoid placing long, disruptive modifiers between the "to" and the verb of an infinitive. However, you must use your judgement when it comes to single-word modifiers. Sometimes a sentence becomes awkward if a single-word modifier is placed anywhere but between the elements of the infinitive:

[WRONG] The marketing team voted to, **before they launched the new software**, run an anticipatory ad campaign. (disruptive -- the infinitive should not be split)

[RIGHT] The marketing team voted to run an anticipatory ad campaign **before they launched the new software**.

## ***Dangling Modifiers***

The **dangling modifier**, a persistent and frequent grammatical problem in writing, is often (though not always) located at the beginning of a sentence. A dangling modifier is usually a phrase or an **elliptical clause** -- a dependent clause whose subject and verb are implied rather than expressed -- that functions as an adjective but does not modify any specific word in the sentence, or (worse) modifies the *wrong* word. Consider the following example:

**Raised in Nova Scotia**, it is natural to miss the smell of the sea.

The introductory phrase in the above sentence looks as if it is meant to modify a person or persons, but no one is mentioned in the sentence. Such introductory adjective phrases, because of their position, automatically modify the first noun or pronoun that follows the phrase -- in this case, "it." The connection in this case is illogical because "it" was not raised in Nova Scotia. You could revise the sentence in a number of ways:

**For a person raised in Nova Scotia**, it is natural to miss the smell of the sea. (the phrase no longer functions as an adjective)

Raised in Nova Scotia, **I** often miss the smell of the sea. (the phrase functions as an adjective but now automatically modifies "I," a logical connection)

A dangling modifier can also appear when you place an elliptical clause improperly:

**Although nearly finished**, we left the play early because we were worried about our sick cat.

The way this sentence is structured, the clause "Although nearly finished" illogically modifies "we," the pronoun directly following the clause. An easy way to rectify the problem is to re-insert the subject and verb that are understood in the elliptical clause:

Although **the play** was nearly finished, we left early because we were worried about our sick cat.

*Written by Frances Peck*

A WSU Resource:

Common Errors in English ([Paul Brians](https://brians.wsu.edu/common-errors-in-english-usage/), retired from WSU Dept of English)  
<https://brians.wsu.edu/common-errors-in-english-usage/>

## Word and Expressions to Avoid

Original Source: University of Mississippi Medical Center Department of Research  
Some taken from: *How to Write & Publish a Scientific Paper*, 5<sup>th</sup> ed by Robert A. Day

<b>Jargon:</b>	<b>Preferred Usage:</b>	<b>Jargon:</b>	<b>Preferred Usage:</b>
a considerable amount of	much	facilitate	help
a considerable number of	many	fatal outcome	death
a decreased amount of	less	fewer in number	fewer
a decreased number of	fewer	finalize	end
a majority of	most	first of all	first
a number of	many	following	after
a small number of	a few	for the purpose of	for
absolutely essential	essential	for the reason that	since
accounted for by the fact	because	from the point of view of	for
adjacent to	near	future plans	plans
along the lines of	like	give an account of	describe
an adequate amount of	enough	give rise to	cause
an example of this is the fact that	for example	has been engaged in a study of	has studied
an order of magnitude faster	10 times faster	has the capability of	can
apprise	inform	have the appearance of	look like
are of the same opinion	agree	having regard to	about
as a consequence of	because	immune serum	antiserum
as a matter of fact	in fact (or leave out)	impact (v.)	affect
as a result of	because	implement	start, put into action
as is the case	as happens	important essentials	essentials
as of this date	today	in a number of cases	some
as to	about (or leave out)	in a position to	can, may
at a rapid rate	rapidly	in a satisfactory manner	satisfactorily
at an earlier date	previously	in a situation in which	when
at an early date	soon	in a very real sense	in a sense (or leave out)
at no time	never		
at some future time	later	in almost all instances	nearly always
at the conclusion of	after	in case	if
at the present time	now	in close proximity to	close, near
at this point in time	now	in connection with	about, concerning
based on the fact that	because	in light of the fact that	because
because of the fact that	because	in many cases	often
by means of	by, with	in my opinion it is not an un-	I think
causal factor	cause	justifiable assumption that	
cognizant of	aware of	in only a small number of cases	rarely
completely full	full	in order to	to
consensus of opinion	consensus	in relation to	toward, to
considerable amount of	much	in respect to	about
contingent upon	dependent on	in some cases	sometimes
definitely proved	proved	in terms of	about
despite the fact that	although	interestingly...	leave out
due to the fact that	because	in the absence of	without
during the course of	during, while	in the event that	if
during the time that	while	in the not-too-distant future	soon
effectuate	cause	in the possession of	has, have
elucidate	explain	in this day and age	today
employ	use	in view of the fact that	because, since
enclosed herewith	enclosed	inasmuch as	for, as
end result	result	incline to the view	think
endeavor	try	initiate	begin, start
entirely eliminate	eliminate	is defined as	is
eventuate	happen	is desirous of	wants
fabricate	make	it has been reported by Smith	Smith reported

it has long been know that	I haven't bothered to look up the reference	presents a picture similar to previous to	resembles before
it is apparent that	apparently	prior to	before
it is believed that	I think	protein determinations were	proteins were determined
it is clear that	clearly		
it is clear that much additional work will be required before a complete understanding	I don't understand it	performed	
it is crucial that	must	quantify	measure
it is doubtful that	possibly	quite a large quantity of	much
it is evident that <i>a</i> produced <i>b</i>	<i>a</i> produced <i>b</i>	quite unique	unique
it is generally believed	many think	rather interesting	interesting
it is my understanding that	I understand that	red in color	red
it is of interest to note that	(leave out)	referred to as	called
it is often the case that	often	regardless of the fact that	even though
it is suggested that	I think	relative to	about
it is worth pointing out in this context that	note that	resultant effect	result
it may be that	I think	root cause	cause
it may, however, be noted that	but	serious crisis	crisis
it should be noted that	note that (or leave out)	should it prove the case that	if
		smaller in size	smaller
		so as to	to
		subject matter	subject
		subsequent to	after
it was observed in the course of the experiments that	we observed	sufficient	enough
join together	join	take into consideration	consider
lacked the ability to	couldn't	terminate	end
large in size	large	the great majority of	most
let me make one thing perfectly clear	a snow job is coming	the opinion is advanced that	I think
majority of	most	the predominate number of	most
make reference to	refer to	the question as to whether	whether
met with	met	the reason is because	because
militate against	prohibit	the vast majority of	most
more often than not	usually	there is reason to believe	I think
needless to say	(leave out, and consider leaving out whatever follows it)	they are the investigators who	they
		this result would seem to indicate	this result indicates
		through the use of	by, with
		to the fullest possible extent	fully
new initiatives	initiatives	transpire	happen
no later than	by	ultimate	last
of great theoretical and practical importance	useful	unanimity of opinion	agreement
of long standing	old	until such time	until
of the opinion that	think that	utilization	use
on a daily basis	daily	utilize	use
on account of	because	very unique	unique
on behalf of	for	was of the opinion that	believed
on no occasion	never	ways and means	ways, means (not both)
on the basis of	by		
on the grounds that	since, because	we have insufficient knowledge	we don't know
on the part of	by, among, for	we wish to thank	we thank
on those occasions in which	when	what is the explanation of	why
our attention has been called to	we belatedly discovered	with a view to	to
		with reference to	about (or leave out)
		with regard to	concerning, about (or leave out)
that fact that			
owing to the fact that	since, because	with respect to	about
perform	do	with the possible exception of	except
place a major emphasis on	stress	with the result that	so that
pooled together	pooled	within the realm of possibility	possible