

Advice on writing (in tex)

M. Brandbyge

May 28, 2019

1 Simple rules

- Use short sentences with just a single point.
- After writing a sentence: Consider how you can shorten it without losing information.
- Push the most important point in a sentence to the beginning. F.ex: "The system used for transport calculations is shown in Fig. 1". The most important point is "Fig. 1" – you want to address exactly that figure. Write instead: "In Fig. 1 we show the system used for transport calculations."
- Be specific!
- Consider your text as "perls on a string": The start of a sentence must be as close as possible to the point where the last sentence left off. F.ex. "In Fig. 1 we show the system used for transport calculations." The next sentence can then take "transport calculations" as a starting point – and now it is secondary that it is seen in Fig.1 since that connection has already been established.
- Keep the sequence. F.ex. if you first in the text compare system 1 with system B in that sequence. After that you should always mention system 1 before system B.
- Use active language. F.ex. "...an analysis as the one in Fig. 1 is presented..". Here the active part is "presented". Put the active first! "In Fig.1 we present .." or "We present in Fig.1 ..".
- Define all quantities in words before use or immediately after an equation.
- Do not use space between numbers and units. Use units on all numbers – so avoid writing "200 or 400eV" and write instead "200eV or 400eV". Units are written with normal (not math) font. The same goes for percents "%".
- Use spell-check!!!

2 Writing in tex

- Do not use math-mode to write *italic* or *emphasized* font. Latin is written in italic, f.ex. *et al.* (and others) or *ab initio*.

3 Basic Punctuation Rules

From <http://cisl.edu/wordpress/lessons/five-basic-punctuation-rules-for-the-comma.html>: the Comma.

1. Use a comma to list things. Today I ate pizza, pasta, and a burger! I need to buy milk, sugar, and bread when I go to the store later. She asked for a new skirt, a necklace, and a sweater for her birthday.
2. Use a comma to make a compound sentence. You will often also use and, but, yet, so, or nor to join the sentences. I kept the picture, and I later had it framed. I had it framed, but I later realized that the picture was crooked. I showed my husband, yet he did not seem to be bothered. I was still bothered, so I took the picture down. My husband didn't notice, nor did he care.
3. Use a comma with introductory phrases like in addition, for example, in fact, however, meanwhile, therefore, and on the other hand. I enjoy softball. In addition, I enjoy tennis. In fact, I like tennis so much that I just bought private tennis lessons. It is expensive though. For example, I pay about \$ 50 per lesson. However, I think that the lessons are worth it because my tennis game is improving. Meanwhile, my friend has been taking Kung Fu lessons. I would like to practice Kung Fu. On the other hand, I am afraid to fight people, so maybe I should stick with tennis!
4. Use a comma to introduce a quote. She remarked, "I have always loved the rain." He looked at her sadly and said, "I can't believe you are growing up."
5. Use a comma with words that show an order or transition. I had a busy day yesterday. First, I went to the gym. Next, I went to the bank. Then, I went grocery shopping. After that, I went home and cleaned my house. Then, I picked up my friend from the airport and we had lunch. Finally, I went home and did my homework. I was exhausted at night!

Guide to Writing PRL-Length paper

1. Read the 'Rules for Writing a PRL.' (Again and again.)
2. Perfect the figures and their captions until they truly contain the main points you want the reader to carry away.
3. There are lots of possibilities in constructing a figure. (i) Put more than one curve, each clearly labelled on one x-y plot. (ii) Use an insert in the figure to show a geometry, a blow-up of a curve, or an experimental setup. (iii) Put two figures on top of or next to each other in order to gain enhanced understanding from the fact that the eye can directly compare them.
4. Writing is not easy; you must work at it. Be prepared to revise your writing many time to achieve clarity.
5. The fundamental unit of writing is a sentence. "Use the active voice; it has more impact." If you doubt this, contrast the sentence above (actually two joined by a semicolon) with its passive voice alternate: "The active voice is to be preferred for its greater impact." Every sentence must be understandable on its own terms. If you find yourself saying "A second sentence will make the first one clear," go back and rewrite the first sentence until it is clear on its own.
6. A paragraph consists of sentences assemble to make a single point. If you discover two (or more!) points in one paragraph, break it up.
7. Paragraphs can be constructed in several ways. (i) The most conventional and easiest pattern for a scientific reader is to start with a sentence that gives the point to be made. Subsequent sentences develop the argument so that by the end of the paragraph the point is made. (ii) Alternately the paragraph has a smooth introduction from the last paragraph and then goes into an argument whose concluding sentence is the point of the paragraph. Use this less often than (i). (iii) Really brilliant writers can place the point of a paragraph in its middle and still be clear. Neither you nor I are that good. If you find the main point in the middle of the paragraph, rewrite!
8. Tricks of the trade. To help the reader find things in your paper, consider using: (i) an italicized (or underlines) phrase at the beginning of the paragraph to alert the reader to the subject matter (as I did here), (ii) numbered subpoints so the reader can clearly find them (as I have done several times), (iii) display equations (as opposed to inline equations) to define the most important symbols, and (iv) detailed labels on figures to identify curves.
9. The most common "style error" are: (1) Using different symbols or phrases for the same concept. Once you carefully pick a symbol or phrase stick to it; (2) Omitting the hyphens from unit modifiers. (Definition: a unit modifier is two or more adjectives or nouns which as a whole serve as a single adjective. Put hyphens between the parts of a unit modifier.) Example: spin-polarised neutrons

Figure 1: From John W. Wilkins guides [<https://www.asc.ohio-state.edu/wilkins.5/onepage/>].