

A Short Guide to Style for Papers, Reports, and Theses

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1) Write for Your Audience

- ☞ Organize and discuss your topic to inform the intended audience.
- ☞ Convey your ideas in terms familiar to the reader.
- ☞ Do not waste the reader's time. Be explicit and brief.
- ☞ No matter how much you want to say, stay within the audience's "infiltration capacity."

2) Create a Train of Thought in the Reader's Mind

- ☞ Clear writing reflects clear thinking.
- ☞ Write with the paper's purpose and intended message in mind.
- ☞ Structure your discussion. Organize ideas in a clear train of thought. Use an outline.
- ☞ Use headings and subheadings to reinforce your train of thought.
- ☞ Provide the most detail for the most important areas. Use appendices for less important areas requiring detailed treatment. Excessive detail in the main body detracts from creating a train of thought in the reader's mind.
- ☞ Tables and figures can help create a train of thought. Tables and figures are especially useful for summarizing and focusing evidence and thoughts.
- ☞ Always include an abstract and conclusions to summarize important results.

3) Make the Reading Easy

"Do not say a little in many words, but a great deal in a few." Pythagoras (582 BC - 507 BC)

- ☞ Use simple sentence structures with no excessive wording. Some examples:
 - Replace "We used a linear program in order to find a more productive allocation of resources," with "A linear program found a more productive resource allocation."
- ☞ Use the active tense. Some examples:
 - Replace "Water markets were facilitated by changes in enabling legislation," with "Changes in enabling legislation facilitated water marketing."
- ☞ Use a simple vocabulary. Engineers will be reading your work.
 - Replace "Doses of Mercury greater than 50 mg/l were associated with negative impacts on salmonid species", with "Doses of Mercury exceeding 50 mg/l harmed salmon."
- ☞ Avoid jargon. Jargon greatly narrows your audience.
- ☞ Avoid using footnotes or end notes; they distract the reader from your train of thought.
- ☞ Use literature citations. Citations provide a "paper-trail" of ideas and evidence to support your discussion and help the reader place your perspective in a larger context.
- ☞ Parenthetical citations (Lund 1990), rather than footnotes or numbers, create a more readable continuity of cited material throughout the text. List references in alphabetical order at the end of the work. ASCE uses this system.
- ☞ Number all pages.
- ☞ For draft versions, use double space. This is easier to read and leaves space for comments. Final versions should be single space.

Good and mercifully brief style guides are Strunk & White's *Elements of Style* (1959) (Strunk's [1918 version is free on web](#)) and Ambrose Bierce's humorous *Write it Right* (1909) (free on web).

Purposes for Paper Parts

Jay R. Lund

Most Basic Rules for Writing

- Write for an intended audience.
- Write with an intended message in mind, that fits within their attention span.
- Create a train of thought in the reader's mind.
- Clear writing reflects clear thinking.

What gets read in a paper?

People are busy, as you ought to be. You have probably noticed which parts of papers you read. For most readers: 90% of Titles are read, 10-20% of Abstracts, 2-5% of the Introductions and Conclusions are read or the papers skimmed, and 1-2% of the papers are read in their entirety. It is especially important for the title, abstract, introduction, and conclusions to be concise and well written; these parts are read by the more numerous and impatient readers.

Title – the most important words

The best titles pointedly convey and motivate the central idea of a paper, like “[Groundwater models cannot be validated](#),” “[The purpose of models is insight, not numbers](#),” “[Death to rule curves](#)”, or “[British Lose Right to Claim That Americans Are Dumber](#)” (after Brexit vote).

Abstract – the paper in a paragraph

The abstract is a distillation of the paper into a single paragraph, no more than 1/2 page in length. An abstract should convey the main points and problem briefly, so busy readers can find work of interest to them (for further reading) or quickly learn the main point without reading further. A well-written abstract helps a wider audience swiftly digest more literature and raises the likelihood that those interested in your work will read further.

Introductions usually have four parts. These are:

- 1) General problem statement, providing a general orientation to the subject and its importance. Define problem. Why is it important? Why is it hard?
- 2) Review of background and previous research, letting the reader know in general terms what has been done before. What have others done?
- 3) What have you done? The paper's specific focus and approach to the problem and the paper's new or useful contributions, and
- 4) Overview the structure of the paper to foreshadow and prepare the reader's mind.

Intermediate Sections of the work should be structured to create a train of thought in the reader's mind. Each section or sub-section should establish one step in the train of thought.

Conclusions should be a short summary of what has been learned from the work.

References:

- 1) let the relative novice to get up to speed on your subject through additional reading,
 - 2) give background on the problem and work done on the problem by others,
 - 3) support the strengths and weaknesses of points and methods you have identified or used, and
 - 4) avoid repeating material that is already well established and available elsewhere.
- Any ASCE or technical academic journal has good examples of reference and citation style.

Appendices contain details which are important for some readers, but would be tedious or interrupt the continuity of the argument for most readers.

Acknowledgements – It is important for others and yourself to make known help you received.

Jay’ Pet Peeves in Writing
 In the vein of Ambrose Bierce’s *Write it right* (1909).



Use a consistent set of units.

Metric, acre-ft, cfs, or cubic furlongs per fortnight, but do not add new units and especially do not change unit systems without a very good reason.

Significant figures of numbers should be consistent with their overall accuracy, anticipated use, and readability. \$2,485,385.85 = \$2.5 million, for most purposes.

Replace	with	Why?
associated with	of	Often both overly tenuous and long-winded
a number of	several	Why not tell us what number then?!
methodologies	method	Methodology is the study of method. Wordy
in order to	to	wordy
with regard to	regarding	wordy
impact	affect or effect	buzz word
the majority of	most	wordy
It has been found that	-	Eliminate useless words
negatively affected	harmed	Convolutd
a key factor	a major factor	“Key” is vague.
It is obvious that...	-	Delete. If it is obvious, why are you saying it?
certain factors	some factors	What about the uncertain factors?
the fact that	-	Reword to avoid. Presumptuous and wordy.

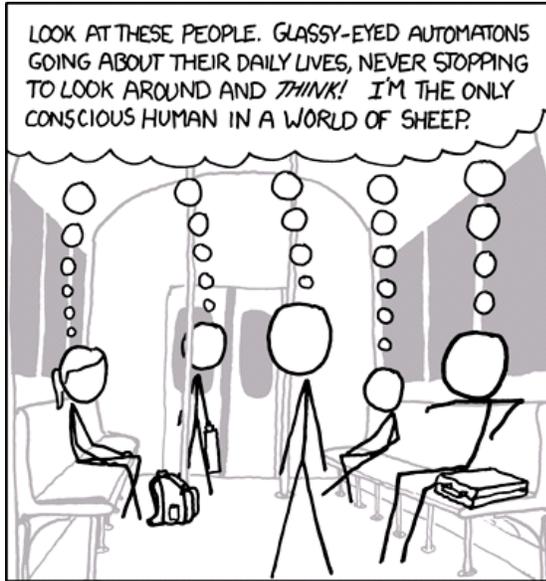
Be careful with these terms

“Determined” is overused. When something is “determined” it is either known with certainty or it has been established with some authority (even if it turns out to be factually false).

“Very” usually distracts from thinking more than it adds in emphasis. Use “very” infrequently.

Figures, Plots, and Tables

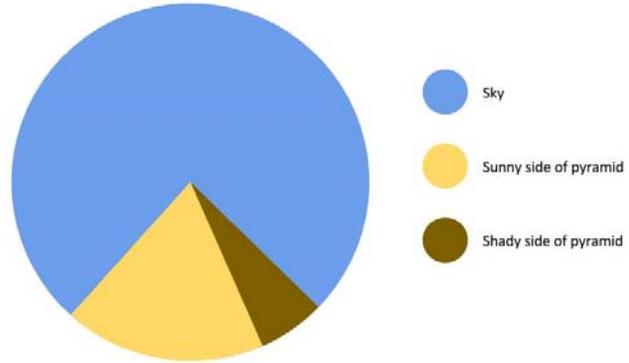
- Use tables and figures to focus the reader. Too many tables and figures is distracting.
- Figures and tables should be able to stand alone, and tell a story.
- Units, significant figures, and clear, readable labels are important. Minimize number of significant figures.
- Place extra tables, figures, and plots in an appendix.
- Rarely have more than 4 columns per table. Lightly colored or patterned cell backgrounds can help show patterns in tabular results.
- Avoid dependence on colors; much printing is black and white. Use line styles (dashes, etc.) and thickness to distinguish curves; don’t rely on colors and avoid using marks, except for data.
- If there are only a few curves, label them directly rather than using a legend.
- Use marks in plots primarily to show data.
- Avoid standard grey background of Excel figures; use a white background.
- Never use “smoothing” in Excel.
- Avoid unused space at extremes of the plot axes (axis values above greatest plotted values).



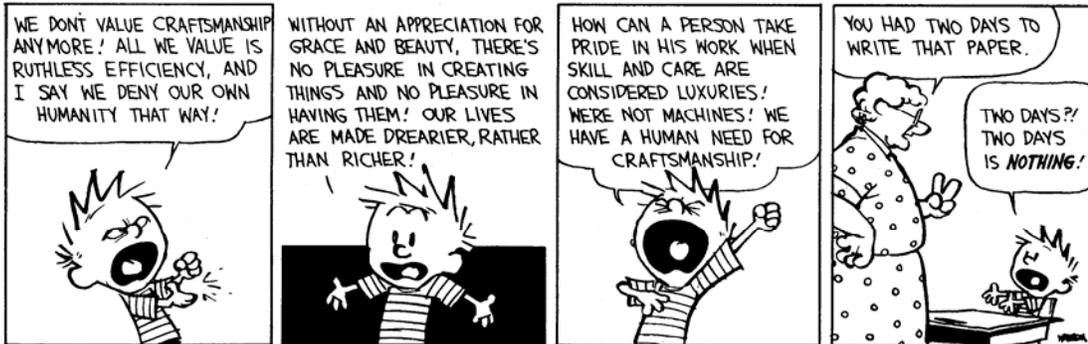
xkcd.com

“Sometimes I write drunk and revise sober and sometimes I write sober and revise drunk. But you have to have both elements in creation — spontaneity and restraint, emotion and discipline.”

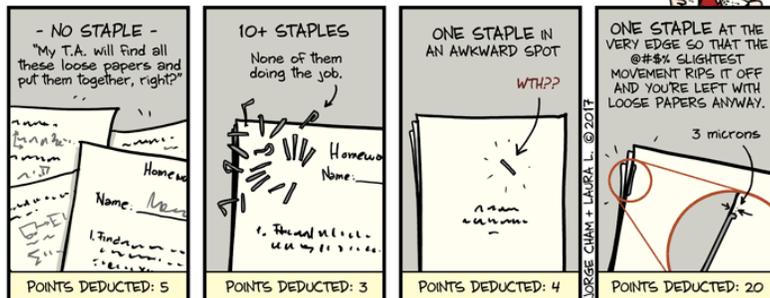
Anonymous



translated from: aqua.tvrl.lth.se.



ANNOYING WAYS STUDENTS STAPLE THEIR HOMEWORK



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