Technical writing in psychology – by Jeremy Gray & members of the Yale Dept. of Psych

A scientific review paper is almost always best presented as an argument. Technical writing is good when it feels like the blueprints of a building, intended to reveal the structure as transparently as possible so that a) strengths as well as "design flaws" in the argument can be made more obvious, and b) other people can replicate the work (in the case of an experiment). But its an argument, not a sketch. An article is like a spear, having a single clear point while the rest of it is streamlined, playing a structural or supportive role in delivering that point, giving it credibility.

Presentation style is important, because it allows the idea (which is often rather complex or abstract) to actually be communicated. If something is annoying or hard to read, the ideas are not going to leap off the page. But the style should be one of simplicity, not ostentation.

Intellectual integrity
- Use your own words. Always. Fully your own, not someone else's "tweaked" a little. Be extremely careful when taking notes to record the source—especially when copying and pasting as part of electronic note-taking.
- Err on the side of being generous rather than stingy in giving credit and acknowledging sources.
- Acknowledge data that goes against your argument, you gain credibility; being selective in the use or presentation of evidence does not advance science
- Win your argument by being right, not through rhetoric or by ignoring data.

Style
- Scientific communication is often an argument: "some aspect of the world is like this". But sometimes you have to say "here's a good question about the world, and these are the competing hypotheses and the jury is still out." You job is then to show why the jury is still out.
- Early on, say explicitly what the argument (hypothesis, etc.) is, and what it is not
- Revisit that thesis during the overall exposition, showing how the things you discuss bear on that thesis.
- Avoiding surprises; from the start, telegraph your conclusion, even in first few words of the title
- Persuasive arguments are based on data and logic, not authority, expertise, popularity, or precedent
- To be persuasive, you need the reader clearly grasp something that is probably very abstract
- Conveying abstract ideas requires a high degree of clarity and consistency, which takes considerable effort; its hard to be persuasive if you are misunderstood
- Word choice and overall structure impact clarity; care about every word
- Make the most coherent scientific story line possible; readers don't care how you came to your conclusion, they don't want the whole messy history. For a scientific article, you want to get to the bottom line.

Good sentences
- Concise, informative
- Precise and accurate
- Concrete when possible, use details to make descriptions more information and interesting
- Simpler exposition means a low "working memory" load for the reader, which boosts comprehension.
- Use your own words; quote others only when absolutely essential (rarely)

Good structure
- Introduce, then explain; do this at all levels: the whole paper, major sections, paragraphs
- Convey the importance very early, which helps to engage the reader
- Use strong topic sentences; propose something in the first (topic) sentence of each paragraph. Assert or introduce it, then support or qualify it in the rest of the paragraph. Aim for topic sentences to be written in way that they make sense even when taken out of context (which the

word "this" in a topic sentence often works against).
- Logical flow of ideas
- Use parallel structure; if you have a list of subtopics, always present that list in the same order
- Aim for a uniform level of detail when reviewing previous work, or else justify why more detail needed in some cases
- Be clear about what is speculative versus what is known—explicitly tell the reader.

Avoid
- Cute, informal, or chatty style
- Wordy or unduly complicated sentences.
- Quotations (use only when the exact wording is critical)
- Synonyms for technical terms (they are very confusing in technical writing)
- Irrelevant details (extra-topical, not needed to reproduce the experiment)
- Sexist (age-ist, …) language
- Passive phrasing; it is acceptable to say "we" and even "I" (p39, APA style manual)
- The word "this" is almost always better avoided, *especially* in topic sentences; if you do need to use it, add a noun as well ("this idea", "this possibility", ...)
- Trivializing competing hypotheses (much more persuasive to explain why a smart person might think that, and then explain why its incorrect)
- Vague claims, over-generalizing (be specific and concrete when possible; do try to go beyond the data, try to suggest possible implications, but explicitly label it as such e.g., in topic sentence, "To speculate…")
- Selective use of evidence (e.g., only citing articles that support your position; sometimes there are good reasons for not citing something, like it was a poorly controlled study, so justify why not)