Author's Toolkit

Writing Better Technical Papers

Ron Read

Kurdyla and Associates Co., Ltd.

In pop music and pop psychology, the suggestion to “accentuate the positive” has a long tradition. But in technical writing, sometimes it’s a negative idea that deserves emphasis.

Accentuate the Negative

In attempts to describe, explain, prove or disprove, it’s not uncommon for the main idea to be what something is *not*. In such cases, beyond simply using the word “not” it may be best to orient the entire sentence’s structure to “not.”

One of the most common weaknesses in expressing a negative idea is when the negative aspect is *absolute*. Consider these examples:

- x All of the samples tested, whether organic or inorganic, were not able to meet the minimum performance requirements.
- None of the samples tested, whether organic or inorganic, were able to meet the minimum performance requirements.

Both of these sentences are understandable and grammatically fine, and they have the exact same meaning. But the initial impressions they make on the reader are significantly different.

In the first example, the reader initially expects to read about something that is completely inclusive (“All of...”), but then his or her thinking is reversed with the negating “not.” In the second example, the reader immediately gets the idea of absolute absence: “None of.”

In other words, by giving the “negative idea” the primary position in the sentence, you are much more effectively guiding the reader’s thinking.

The “neither/nor” structure is another powerful tool, used in an appropriate context, for stressing a negative point that applies equally to two possibilities. Be careful, however, not to add another negative expression after it:

- x Neither film A nor film B could not reflect low-angle beams from the lens.
- Neither film A nor film B could reflect low-angle beams from the lens.

On the other hand, don’t use a “literary not” when a simpler expression can express your idea more directly:

- x Not a few researchers have attempted to...
- Many researchers have attempted to...

Negation is a common and important job in technical writing—do this job purposefully.

A Tense Issue

Recently, I’ve seen more submissions to IEICE Journals that mention specific previous works in the present tense.

- ? Suzuki et al. [6] approach these types of problems using an inverse transform.
- ? Martin and Zheng [7] discuss a more direct method of filtering the results.

This trend seems a bit strange to me, especially if the cited work was done far in the past—the work *may* be ongoing, but very often it isn’t. Following one of my favorite references (*How to Write and Publish a Scientific Paper*; Day and Gastel, 2006, Cambridge University Press), I recommend using the present tense for general past results but the past tense for specific attributions:

- These materials are known to inhibit cell growth in a vacuum [1–3, 5].
- Reduced oxygen also inhibits this growth [4].
- Suzuki et al. [6] approached these types of problems using an inverse transform.
- Martin and Zheng [7] discussed a more direct method of filtering the results.

Grammar Questions? read@kurdyla.com

Mini Quiz: What’s Wrong?

- 1) ...and then RoboJac approached to target A.
 - 2) ...and then RoboJac approached target A.
 - 3) RoboJac’s approach to Target B was direct.
- (Answers: 1) Delete “to”; 2/3) OK)