

# Introduction to Technical Writing

*What exactly is technical writing?*

The purpose of technical writing is to report information, often in the fields of science and engineering. Technical writing relays important information to readers. As such, the styles and prose of the documents must be objective, clear, and concise.

Researchers, engineers, and scientists are people who need to communicate their work to others. However, today's students often find themselves in the same boat, as more curricula place more emphasis on writing (as well as oral presentations). It should be stressed that technical writing is different from creative and other styles of

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writing in many ways. While becoming a successful writer, for example a novelist, requires total dedication and some natural gifts, technical writing can be coached. With proper training and some hard work, anyone can become a good technical writer.



Today's engineers and scientists often overlook the importance of writing. In many cases, they did not bother spending the time to master the craft. Technical papers are "serious documents", meaning that a lot depend on them. They need to be concise and specific. An engineer may be passed up for a major promotion because his or her shoddy technical reports fail to convince the management of the significance of the findings. An academician's manuscripts for publications may be rejected on the ground of poor writing. Finally, a scientist's request for a research grant may be denied because the proposal is laden with personal opinions.

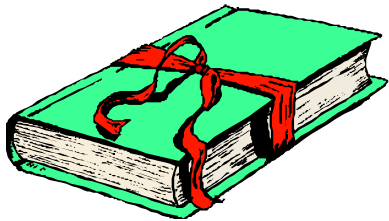
The following are some general technical writing tips for success.

### **Be Specific and Avoid Clutter in Your Writing**

W. Zinsser once wrote: "*Clutter is the disease of American writing ... the secret of good writing is to strip every sentence to*

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*its cleanest components. Every word that serves no function, every long word that could be a short word, every adverb which carries the same meaning that is already in the verb, every passive construction that leaves the writer unsure of who is doing what – these are thousand and one adulterants that weaken the strength of a sentence. And they usually occur, ironically, in proportion to education and rank.”*



Technical writing is not literary writing, which serves a completely different purpose. Technical writing must be clear and concise. Short declarative sentences are the easiest to write and read, and they are usually clear. However, too many short sentences in a row can sound abrupt and monotonous. Good technical writing involves finding the right mix between short sentences and more complex constructions.

### **Write with an Active Voice**

An active voice is always preferable to a passive voice. Write *“The researchers found a strong correlation between the dosage of the drug and its efficacy.”* instead of *“A strong correlation between the dosage of the drug and its efficacy was found by the researchers.”*

## **Present Accurate Information and Be as Precise as Possible**

The author of a technical paper uses words to relay information about facts and events that have happened. The author typically does not relay opinions, except in the cases where an unexplained event or phenomenon has occurred. In this case, it is appropriate for the author to render an opinion (an educated one, of course) about the situation. If this is done, it is important that the author make clear that he or she is offering an opinion and not a fact.

## **Use Different Verb Tenses for Different Expository Purposes**

As the writer is usually writing about events which have already happened, the tense of a paper is mainly past tense. For example, "*Smith (1994) found (not "finds") that freshmen spend less time*" . . . , or "*The results were*" (not "are"). However, in some parts of the document, it may be appropriate to use the present or future tense. For instance, if the author is covering facts that were, are, and forever shall be true, these facts may be presented in the present tense. The present tense can also be used when you are giving your own ideas, when presenting statements that are well accepted, or when describing your results. For example, "*I believe that maintaining a*

*positive attitude is very useful in helping to beat the cancer scourge.*"; or *"Freud believes that the unconscious determines our behavior."*; or *"Table 1 shows . . ."*. Future tenses are used very sparingly but are more common when writing research proposals. If the author is writing about experiments or activities yet to come, the future tense can also be appropriate.

## **Try Using Third-Person Pronouns**

Technical documents usually do not contain first-person and second-person pronouns such as "I", "you", and "we". However, in recent years the use of first-person pronouns has become more acceptable. Even then, only the first-pronoun "we" is used. When in doubt, stick to third-person pronouns.

## **Use Charts, Tables, and Graphs**

Tables and charts are important components in technical papers. They convey a lot of information in the shortest time and in minimum space. Label all charts, tables, and graphs sequentially, and give them titles. A common mistake among novice writers is to include tables and graphs but somehow fail to discuss them in the report.



If you are new to technical writing,

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following the six tips above will immediately improve your writing. Remember, in technical writing you write for the readers, not to satisfy your ego or to tell a story. So don't be ambiguous and go straight to the point. In subsequent chapters, we will revisit some of the tips and elaborate on them.