

Read, reflect, respond: Tips on effective writing

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Competing interests: GY works for PLoS, an international non-profit organization that believes that all research articles should be considered a freely available global public good.

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My reasons for writing this module

“Starting with chemistry lessons at school, and continuing during medical training, my teachers told me that good scientific writing is objective and written in the passive rather than active tense. I was told to write, “The test tube *was placed* into the Bunsen burner,” rather than, God forbid, “*I placed* the test tube into the Bunsen burner.”

The trouble with passive, emotionless writing is that it is incredibly dull to read. The message of the piece is often buried by long, pompous words that are a distraction to the reader. At PLoS Medicine, we are forced to reject many papers because we simply can't understand what the authors are trying to say. The message is buried under all those long, clever words.

It doesn't have to be this way. There are a few simple things that we can do to help get our message across. After all, isn't that why we are writing something in the first place?”

Learning objectives

By reading this module you should hopefully:

- Understand the importance of using a clear, simple writing style
- Realize there's no point writing your piece if you don't have a clear message
- Grasp the basic rules of effective writing

Read

Don't panic, prepare

When faced with the prospect of having to write something—whether it's a research paper, an audit, an editorial, or a book chapter—many doctors go into panic mode. They worry, for

example, that they don't know how to write or that they don't really know what they're supposed to be saying.[1]

Although it's true that at some point you have to put pen to paper, preparation is always helpful. Ask yourself these four questions:

Who is my audience?

- You should keep them in mind when you are writing
- What does your audience know about this topic already and what do they want to know now

What is my main message?

- If you don't have one, then you probably shouldn't bother writing the piece

Why am I writing this?

- If this piece isn't important in some way, perhaps your time would be better spent doing something else
- If you're writing up a study, and there have been many similar studies before, you need to persuade readers that your study is different. Perhaps, for example, yours is the first to be done in a district general hospital rather than a specialist setting.

What style should I use?

- If the piece is for a particular journal, make sure you've read the journal's guidance to authors and the style guide.
- There are some basic style rules that can help you get your message across (see below).

If you're submitting your piece to a magazine or journal, the editors are likely to have a triage system that they use to determine whether your article ends up in the bin or in print. Editors tend to use the following sorts of questions to triage the paper:

- Does this article have a clear message? (if there isn't one, then we doubt that readers will find the paper valuable)
- Is it original?
- Is it important?
- Is it true?
- Is it relevant to our readers?

If we can't answer, "yes" to all five questions, the paper isn't for us. So in preparing your manuscript, make sure you can pass the triage test.

Make your title appealing

The first thing the reader will see is the title, so make it interesting. The best titles are usually short and active (rather than passive) and they contain a verb. Compare the following titles: which do you find more appealing?

"Doctor in fraud case" or *"Doctor convicted in \$10m fraud case"*

"Stress among doctors" or *"Stress levels in doctors soar to a new high"*

By the way, if you're submitting your writing to a journal, the first thing the editor will look at (before the title) is the cover letter. So spend time getting this letter right: make it persuasive, fascinating, and even passionate ("This is the first ever high quality trial to look at the effect of x on y, and we believe that it will change medical practice in a dramatic way.")

Give your writing a structure

This is the most difficult part of writing, but arguably the most important. If you get it right, the rest usually follows easily. If you get it wrong, there's probably nothing you can do to salvage the piece. Without structure, readers will get lost. Readers should know, throughout your piece, "where they've come from, where they are, and where they are headed." [2]

If you're writing a scientific paper in a medical journal, you will probably be following the IMRaD structure (Introduction, Methods, Results, and Discussion). [3] You can learn more about using the IMRaD structure in a related module, *How to write a research paper and get it published*. There are now guidelines that you should follow in writing particular kinds of scientific papers—such as the CONSORT guidelines for writing a randomized controlled trial (www.consort-statement.org) and the QUORUM guidelines for writing a systematic review. (4) Many of these guidelines have been recently collected together on the website of the EQUATOR network (<http://www.equator-network.org/>), a new initiative that "seeks to improve the quality of scientific publications by promoting transparent and accurate reporting of health research."

For many other kinds of writing, like a news feature, a report, or an editorial, it's a good idea to use a structure called the **inverted triangle**, which is a way of grabbing readers' attention and keeping them interested. Your main take home message goes right at the top of the piece, while the less important details go towards the bottom. Your main message is given at the very start as a single, gripping sentence or perhaps a short paragraph. This has the effect of hooking readers in, so they'll want to learn more. I'll never forget the opening line of a piece in a broadsheet newspaper: "This is a story of death, sex, and corruption in the NHS." It certainly made me want to read on.

Here is an introduction to a news story that works perfectly, as it gives the thrust of the whole piece in one interesting sentence: "The number of people who are chronically hungry is growing worldwide, a report by the United Nations' Food and Agriculture Organization says." [5] Later on in the piece we get the actual details. We are told, for example, that in 1999-2001, there were 798 million chronically hungry people in the developing world, 10 million in industrialised countries, and 34 million in transition countries in the former Soviet Union.

If you're writing a news feature, the figure below shows the inverted triangle in action [6]: **[add the following figure here:** www.studentbmj.com/search/pdf/03/11/sbmj401.pdf]

WHAT: tell the reader in a nutshell what has happened

HOW: how has it happened? Where? When? Who was involved?

AMPLIFY: what other facts does the reader need to know

TIE IT UP: Round off the story, for example with a strong fact or quotation

Follow the basic rules of writing

Writing effectively means leaving behind the turgid style we were taught in our science lessons. Instead, we should be inspired by George Orwell's rules of writing and by the advice of the Plain English Campaign:

- Use short, simple words rather than long, complex ones ("About" rather than "Approximately")
- Keep sentences short (an average of around 20 words).
- Cut out all unnecessary words (adjectives, for example, can often be removed).
- Use the active, not the passive ("We did" rather than "It was done"; "We conclude that" rather than "It can be concluded that")
- Avoid jargon

- Avoid double negatives (“Osteoporosis is common” rather than “Osteoporosis is not uncommon”)
- Be positive rather than negative (“She was late for meetings” rather than “She was not often punctual about getting to meetings on time”)
- When giving guidance, be direct (“You should do an electrocardiogram in patients with chest pain”)
- Avoid abbreviations (say “myocardial infarction,” not “MI”)

If you are sending a manuscript to a particular journal, that journal may have its own rules. For example, some journals—particularly longstanding science journals—still seem to be more comfortable with the passive tense. Be sure to scrutinize the journal you are sending your paper to, so you get a feel for the kind of writing that the editors prefer. You may have to break the rules of good writing if the journal demands it.

The hardest lesson I had to learn in becoming a professional writer was to stop using long words. When I used long words, I thought I was being clever. But usually they just made the piece harder to grasp.

If you’re submitting an article, remember that editors are human enough to be favorably impressed by a clear, easy to read paper. And pictures are always helpful in illustrating your message.

Keep it short

Mark Twain famously wrote, “I didn’t have time to write you a short letter, so I wrote you a long one instead.” He was right—it is much harder to write a short piece with a clear structure than a long, rambling one. But the effort will pay off.

Try and make sure that each sentence contains just one idea. It can be hard for a reader to grapple with many ideas over the course of one sentence:

“The workshop will increase your awareness of the symptoms of SARS” is better than “This workshop is designed to improve GPs’ awareness of how SARS presents, so as to increase the readiness of primary care teams to deal with a possible epidemic of SARS, which some epidemiologists have predicted as being likely, particularly given the recent outbreak in Asia.”

Each short paragraph should capture just one topic. And the first sentence of the paragraph should contain the main message of the paragraph. If you’re reading a well written editorial, you should be able to get the gist of the piece by just reading the first sentence of each paragraph.

Avoid clichés and pomposities

Here are the sorts of clichés that are best avoided (I’m sure you can think of many more):

- Burning issue
- Thin end of the wedge
- It remains to be seen whether
- Rectify the situation
- It is a foregone conclusion that

Perhaps the worst cliché of all is:

- More studies are needed

And here are some examples of pompous language, with suggested alternatives:

- At this point in time (now)
- There is an absence of (there is no)
- Provided that (if)
- A considerable proportion (many)
- In view of the fact that (because)
- In addition (also)
- Reached a conclusion (concluded)
- Reveal (show)
- Demonstrate (show)
- Terminate (end)

Which do you prefer:

“My delivery is a utilitarian comparison of pugilistic pros and cons” or “I will compare the points for and against boxing”

In short, you should

- Grab the reader
- Have an interesting, original message
- Use short, active, positive words and short sentences
- Have a logical structure
- Be persuasive and passionate

Reflect

Is there really such a thing as good writing?

Professional writers and editors love arguing about what is good writing style. They don't agree on everything, but there is a consensus view that good writing follows certain rules. It's amazing how often these rules are ignored. Pick up a medical journal and you'll see what I mean.

Here's an exercise you can try, in order to practice these rules. Take the following piece of writing and try and turn it into something that is actually a joy to read:

“A considerable proportion of people in the community develop post-traumatic stress disorder—in fact, it can be said that post-traumatic stress disorder is not really an uncommon health problem, in view of the fact that it affects approximately 1 in 10 women and 1 in 20 men, and so GPs are likely to have a great deal of patients with the disorder on their list, making it a pressing health problem for both clinicians and policymakers. The application of cognitive behavior therapy has been shown by many distinguished and respected researchers to maximize the chances of an impressive recovery process, thus terminating the course of the illness at an earlier stage and in addition improving the possibility of no further relapses over time.”

What can I do about writer's block?

Tim Albert, a trainer in effective writing skills, who has run over 700 courses for doctors, has a few tips for dealing with writer's block:

“Most of the time we suffer from writer's block because we are not really sure of what we are trying to say. So the cure is to delay the writing and spend more time planning. Work out, in one

sentence, what it is you are trying to say, to whom, and why. Work this up into a plan, by which time you should be ready to start writing and therefore have no excuse to sit at your computer worrying about how to begin.”[7]

I’m not sure what my message is—what should I do?

If you don’t have a message to get across to readers, it begs the question of whether you should be writing this piece at all. Ask yourself, “What is the *one thing* I want my readers to learn from this piece?” If you can’t answer this, you’re in trouble.

Sometimes the problem is that you had a message, but then it got diluted by lots of different people (your professor, your head of department, the cleaner) making alterations to your writing. In this situation, be brave. Someone has to take responsibility for making sure that the piece has a clear message that is transmitted to the audience—and that someone is you.

Will my writing get better with practice?

Yes. Before I became a medical journal editor, I submitted a research paper to a journal. I broke all the rules of decent writing. The paper was extremely long and written mostly in the passive tense. The sentences went on forever, since I had tried to cram three or four ideas into each. The whole piece was shapeless and impossible to follow. The journal rejected the paper.

Having learnt a few tips on writing when I was an editorial registrar at the BMJ, I re-wrote the entire paper. I cut it in half, changed all the passive tense to active, and gave it a very clear structure. I kept every sentence as short as possible, taking out superfluous words. I used lots of sub-headings to break up the piece and to guide the reader through my thinking. I made the title juicier. I re-submitted the paper, to a different journal, and the journal accepted it.

Why bother becoming a published author?

Great question. Doctors give a variety of answers, ranging from the worthy to the slightly cynical. For example, they say they want to:

- Publish their study to improve the care of patients
- Entertain readers with their witty remarks about the state of the health service
- Improve their cv and job prospects

It can be helpful to be clear of your motives, since these are the driving force for your writing career.

I’m an extremely busy GP—do I have time to write?

It all comes down to preparation. If you are clear about your message, your audience, and the importance of your piece, and if you stick to using clear and simple language, you will easily find the time. Putting aside 15 or 20 minutes per day on the article may be enough, although some writers prefer to block out half a day purely to work on their piece.

William Carlos Williams, author of *The Doctor Stories*, was a family doctor in an impoverished immigrant community. He would get up early and sit at his typewriter before his morning surgery. When asked how he found the time to manage two full-time careers, he replied: "It's no strain. In fact, the one [medicine] nourishes the other [writing], even if at times I've groaned to the contrary." [8]

References

1. Albert T. The problem with writing. *BMJ* 2002;325:S180.
2. Docherty M, Smith R. The case for structuring the discussion of scientific papers. *BMJ* 1999;318:1224-1225
3. Hall G, ed. *How to write a paper*. London: BMJ Books, 1996.
4. Moher D, Cook DJ, Eastwood S, Olkin I, Rennie D, Stroup DF, for the QUOROM Group. Improving the quality of reports of meta-analyses of randomised controlled trials: the QUOROM statement. *Lancet* 1999;354:1896-900.
5. Burgermeister J. Number of chronically hungry people is rising by 5m a year. At http://www.studentbmj.com/current_issue/news/5a.html
6. Eaton L. Hold the front page. At www.studentbmj.com/search/pdf/03/11/sbmj401.pdf
7. Albert T. A selection of frequently asked questions about writing. *BMJ* 2002;324:S83
8. Williams WC. *The Doctor Stories*. New York: New Directions Books, 1984.

Respond

Further Reading

Sharples M. *How we write: writing as creative design*. London: Routledge, 1999.

Wager L. The trouble with science writers. At http://www.timalbert.co.uk/shortwords_wager.htm

Albert T. *The A-Z of medical writing (a personal and biased guide)*. London: BMJ Books, 2000.

Resources

Plain English Campaign (www.plainenglish.co.uk)

Publishes free online guides to effective writing, including *How to write in plain English*, and guidance on writing cvs, reports, and for websites.

Short Words (http://www.timalbert.co.uk/short_words.htm)

A twice yearly newsletter on effective written communications from Tim Albert Training.