OPTIMIZE SCIENCE

April 3, 2017

Resources for Science Communication Workshop Attendees

Writing in General

"The Sense of Style" by Steven Pinker (book)

> The first two chapters of this book talk about how to write compelling prose. It's at the level of sentences, tone, and style, rather than broad narratives. In that respect, it's different from the other books on this list, and it's a nice resource. The latter chapters of the book dive into minutia on topics including grammar.

"Writing Science in Plain English" by Anne Greene (book)

> Lots of tips/guidelines/rules... it emphasizes strategies such as making lists parallel, reusing words (rather than mining a thesaurus), and maintaining rigid structures. There are even exercises in the book.

"Writing Science" by Joshua Schimel (book)

> This goes into some depth on a variety of the concepts I covered, especially the funnel, and also discusses the alternative story structures and their utility.

"Houston, We Have a Narrative" by Randy Olson (book)

> It has some practical advice.

Finally, back when people long attention spans and were scholarly, Gopen and Swan wrote this beautiful piece:
http://www.americanscientist.org/issues/pub/the-science-of-scientific-writing/99999

Papers

Here is our "Ten simple rules" paper on bioarxiv:
http://biorxiv.org/content/early/2016/12/17/088278

> I suppose it is clickbait for scientists (42k pdf downloads so far!). It is a lot less 'deep' than Gopen and Swan, but it is a quick, actionable read. We are about to resubmit it to PLoS-CB after they gave some really good feedback, so the final version should be pubbed in a few months.

Grants

Anyone submitting to the NIH should watch this mk study-section review, as it is very orienting to the process and gives you a concrete picture of the process you are writing for:

https://www.youtube.com/watch?v=fBDxI6l4dOA

"The Grant Application Writer's Handbook" (book)

This is the grant book many of my associates use. I think it is quite good, so I highly recommend every department have a copy or two lying around:

http://www.grantcentral.com/workbooks/national-institutes-of-health/

Figures

Look at all the books by Edward R. Tufte and buy one or two of them, or get your department to "collect them all!" For example "Envisioning Information" or "The Visual Display of Quantitative Information".

Title/Abstract Feedback Form

Here are questions you can ask your test-readers, to hone your title and abstract:

Title

From the title alone, how clear of a picture do you have regarding what the paper is going to be about?

Abstract

Broad Context: Is the broad context clear and appropriate?

Finer Problem: Is it clear what problem/issue we are trying to study?

Method: Is it clear how we went about studying it? (this is often missing, by the way)

Result: Is our answer to the problem/issue clear, and does it match the problem well?

Interpretation/Broader Significance: Was this clear and did it seem justified, or at least potentially justifiable with elaboration in the main text?

Title+ Abstract

Having read the abstract, how well does the title capture the point?

Jargon

Apart from what you have already pointed out above, are there any words that you didn't know the meaning of, or had to spend more than a few seconds trying to figure out the meaning of?