

Translating Data Into a Compelling Story — Tips on Writing Peer-Reviewed Research Articles

By Yann Wang, PhD, CMPP™

Many scientists enjoy doing research. But writing? Not so much. When it's time to write a manuscript after having completed a research project, they often dread to get it started. Some are even consumed by anxiety. Here are a few tips.



Think Before You Start to Write

If you can't think clearly, odds are you can't write clearly. So before you start to write, spend some time reminiscing the whole process of completing the project, step by step chronologically.

Step 1. Initiating the project. In this step, try to recall how you started the project. Was there a critical question you tried to answer, or was there a pressing problem you were so eager to solve? If so, what was it?

Step 2. Choosing the methods. To answer the question, or solve the problem, you identified the methods you needed. Were there available methods from colleagues that you could use, or did you have to design your own methods?

Step 3. Generating the data. After you had chosen a valid method to use, you couldn't wait to start generating data. Think about how excited you were while you were collecting the precious data day after day.

Step 4. Analyzing the data. As you were diligently generating and collecting data, you couldn't help but analyze the data along the way. Were you excited, frustrated, or confused? Why? What did the data tell you? And what changes did you have to make?

After many months, or years, you finally generated enough data as you had planned. And you analyzed the whole data set using a pre-chosen method(s). Did the result of the analysis answer your original question? Was your result the same as you expected? If yes, how did you come up with your expectation, based on your previous study, other groups' studies, or something else? If not, what's the difference and what's your explanation for the difference?

Step 5. Finishing the project. Based on the analysis, what conclusion did you get? How would your result impact the basic research and/or the clinical practice in your field?

Start to Write After You Have a Story in Your Head

After you have gone over the above 5 steps, you have already created a full story in your head. Now write down the story. Your written story is not in perfect shape, yet, but it's an excellent starting point, and it flows. More importantly, you have just overcome your biggest hurdle of writing a manuscript, getting started.

Finish Your Manuscript As Soon As the Project Ends

Start to write your manuscript as soon as you have completed your study, and finish it while your memory is still fresh. The longer you wait, the less interested you are to write up the manuscript. And if you are doing research in a competitive field, chances are there are other groups that are doing similar studies. If you wait too long, they may publish their results ahead of you. If this happens, your results may just have lost the value they deserve.

Yanni Wang is a principal scientific writer and the owner of [International Biomedical Communications](#), a company dedicated to translating research data into clear messages. Yanni has a PhD in chemistry and writes about biomedical research-related topics for professional audiences and the general public. Yanni can be reached at dr.yanni.wang@gmail.com.