Day 2: Openings

Reading *Writing Science* by Joshua Schimel

Before workshop

1. Summarize your manuscript

The PLOS *Ten Simple Rules* series is a collection of approachable and concise articles that address some of the soft skills in science. My manuscript outlines ten simple rules for finding and selecting R packages. R and, by extension, R packages, are widely used in academia and other research settings. R users of all levels struggle to (1) find a package to accomplish a particular task or solve a problem of interest and (2) choose the best package to perform that task. Thus, we introduce R, describe the importance and availability of R packages, and propose ten simple rules for finding relevant packages and determining which package is best for one's desired use. These rules increase R's acessibility to a diverse audience and promote computational reproducibility in science.

2. Read Chapter 4 of *Writing Science*

3. Identify key Introduction components in an example paper

Ten simple rules for Twitter

What is the larger problem that the paper will be tackling?

- How can researchers and scientists use Twitter to collaborate and advance their careers?

What is the relevant context for that problem?

- increased use of social media platforms in academia

What are the key characters?

- researchers and scientists

What background information is given to help the reader understand the specific work in the paper?

- background info about Twitter and its uses

What is the "challenge" ("the specific hypotheses/questions/goals of the current work")?

- Twitter can be used strategically by scientists to advance their careers

Ecological fallacy

What is the larger problem that the paper will be tackling?

- ramifications of the ecological fallacy as applied to epidemiology

What is the relevant context for that problem?

- ecological studies evaluated in epidemiological contexts

What are the key characters?

- ecological fallacy
- coefficient correlations

- epidemiologists

What background information is given to help the reader understand the specific work in the paper?

- established consequences of the ecological fallacy

What is the "challenge" ("the specific hypotheses/questions/goals of the current work")?

- demonstrating three flawed notions that come from typical uses of the ecological fallacy

4. Read Chapter 5 of *Writing Science*

5. Diagnose the Opening for an example paper.

Ecological fallacy

Who do you think is the intended audience for the paper?

- epidemiologists
- ecologists

What is the larger issue the paper will address?

- ramifications of the ecological fallacy in epidemiological contexts
- an alternative approach to inference for understanding disease etiology

Do you think that they are properly "advertising" what they will later cover in the paper?

- high level overview
- three main points

6. Define Opening components for your paper

What is the target audience? Is it broad / interdisciplinary or targeted to researchers in a certain field?

- researchers in computational biology and bioinformatics (PLOS Computational Biology Journal)
- R users more broadly (e.g., academia, healthcare, government, industry, students, etc.)

What is the larger issue that the manuscript will address?

- provide an accessible, yet thorough, overview of the purpose of R packages
- simplify the process of finding and selecting R packages in a transferable way

What are a few elements of the issue that are interesting but that your manuscript will **not** address?

- R packages for specific tasks
- coding details
- technicalities of package development

7. Revise the Opening for your manuscript

see manuscript

After workshop

see manuscript for revisions and example articles

8. Read Chapters 6 and 7 of *Writing Science*

9. Evaluate the Funnel and Challenge of example papers

10. Define the Challenge of your manuscript

11. Read Chapters 8 and 9 of *Writing Science*