Habits of Productive Writers

1. Discuss authorship
2. Select journal
3. Write
4. Be responsible
5. Seek feedback
6. Submit manuscript
7. Review process
8. Respond to reviewers
9. Set milestones

Who is an author?

- Department chair: Provided space
- Lab chief: Provided funding
- Section head: Proposed basic experimental idea
- Postdoc: Oversaw work
- Grad student: Directed day-to-day expts
- Technician: Assisted grad student
- Lab aide: Made solutions, kept lab clean
- Colleague #1: Provided antibody
- Colleague #2: Edited manuscript
Criteria for Authorship
International Committee of Medical Journal Editors (2015)

1. Discuss authorship
   • Criteria
   • When to determine
   • May need to indicate roles in ms

Acknowledgments
   Who and what?
   • Financial assistance
   • Prior presentations
   • Gifts of materials
   • Technical assistance
   • Advice
     – Research
     – Manuscript
Acknowledgments

“This work was supported by NIH (MH19806) and Educational Inventions, Inc. A preliminary report on this work was presented at the IBRO Meeting, 14 July 2011. We thank Maria Lima for providing an antibody for Protein DUQ, Hannah Lee for technical assistance and Mark Raskin for assistance in the preparation of this manuscript. One of the authors (LL) is a paid consultant for Educational Inventions, Inc.”

2. Select journal carefully:
Variables in selecting a journal

Read Instructions to Authors
Carefully

- Format
- Length
- Style of references
- Sharing requirement
- Supplemental data

- Submission
  - Process
  - File types
3. Write

Start writing early
• Before all data collected
• Before equipment dismantled
• Before you have moved on

First: Outline the paper

• What are the issues?
• What to say about them?
• In what order?

First: Outline the paper

• Items to be included
  – What are the main points made by your data?
  – What is the hypothesis?
  – In what order do you wish to present results?
  – What are the points to discuss; best order?
Second: Write the first draft

- Focus on getting ideas onto paper
- Brainstorm
- Don’t worry about grammar, aesthetics
- Cite references in text (e.g., insert “REF”)

Third: Edit thoroughly

“If you try to write and edit at the same time, you will do neither well.”

- Charles H. Sides

Third: Edit thoroughly

- Start with major alterations, then the details
- Finally, polish the style
- The final product should be
  - Logical
  - Easy to read
  - Concise
Summary of a hypothetical study

Adult male rats (Sprague Dawley, 250 gm) were given daily injections of amphetamine (5 mg/kg, i.p.). It was observed that motor activity as measured in an open field initially increased but that this effect gradually declined over 3 weeks.

4. Write responsibly

• Major issues
  – Fabrication
  – Falsification
  – Redundant publication
  – Plagiarism

Plagiarism

• What is plagiarism?
  – Presenting the work of others as your own
    • Text
    • Figures
    • Ideas
Plagiarism

What don’t you need to cite?
Common knowledge
- Amino acids are the building blocks of protein.
- Immune system protects against pathogens.
- There are four blood types: A, B, A/B, and O.

Avoiding plagiarism

- keep good notes, records
  - indicate source of all ideas
  - use quotation marks if recording a quote
  - indicate when you are paraphrasing someone else
  - maintain list of references

In a published article
We have found that using a toxin at a dose that induces a 50% loss of neurons is optimal for the study of neuroprotection.

Your manuscript
We have found that using a toxin at a concentration that induces a large loss of neurons is best for the study of neuroprotection.
We have found that using a toxin at a concentration that induces a large loss of neurons is best for the study of neuroprotection.

5. Seek feedback

- Research
- Presentation
- Writing
- Language

Requires that you have established a network!

6. Submitting

- Read and follow instructions
- Include cover letter
  - Summary (a few sentences)
  - Indicate value to journal
  - Potential reviewers
    - Recommend
      - Well-known in field
      - No conflict of interest
    - To avoid
7. Understand the review process

- Editor receives, surveys manuscript
- Manuscript sent to reviewers for evaluation
- Reviewers provide editor with critique
- Editor makes decision

8. Deal with reviewers’ comments

Possible outcomes:
- Accept as is
- Reject
- Revise

Your options:
- Revise ms
- Submit to another journal
- Appeal the decision

Criteria for evaluation

- Relevance
- Significance
- Content
- Writing
Cover letter for a revised manuscript

- Indicate that this is a revision
- Address each of reviewers' concerns
- Indicate changes you made

1. Reviewer #2 felt that more detailed information should be provided on the sampling procedure. This information has been inserted (see p. 9).

2. Reviewer #3 requested that ...
   We have...

9. Set milestones
   - Timeline for each article
   - Daily or weekly writing requirement
Ethical Dimensions of Publishing Peer-Reviewed Research Articles
Beth A. Fischer and Michael J. Zigmond

Peer reviewed research articles have long played a significant role in science – facilitating scientific progress by permitting the sharing of methods, results, and interpretations, and establishing a mechanism for judging the expertise and productivity of researchers. Perhaps because publications hold such value it should not be surprising that some individuals have sought to circumvent traditional publication practices so as increase their standing in the field. The damage that can be inflicted on the researcher, their colleagues, and the scientific enterprise by such incidents has led some scientific societies and journals to develop guidelines outlining responsible conduct with regard to publishing research articles. This chapter outlines some of the major ethical concerns with regard to publication practices, describes some of the points at which a conflict in values or obligations may arise, and discusses some of the mechanisms which have been developed to minimize such conflicts and their impact on the discipline. Although we focus specifically on peer reviewed research articles, many of the issues we discuss for example plagiarism, honorary authorship, and failure of scholarship are...
Introduction: common problems

• Too long
• Irrelevant material

Methods

• What is its function?

~1,500 - 2,000 words

Methods

• How much detail to present?
  – Method
  – Model of equipment
  – Sources (company; location)
Reproducibility

What might lead to failure to reproduce?

• Fraudulent data
• Incomplete report
• Failure to follow methods provided
  – Change in protocol by experimenter
  – Substitution of reagent or animal strain
  – Change by manufacturer
Methods: Common Problems

- Inaccurate
- Too little information
- Relies on reader finding another article

Possible consequences
- Failure to replicate!

Results

- What is the function?
  - Provide the data collected
  - Allow readers to evaluate and interpret
- Amount of data to present? Varies
- How to present the data?

Full-length manuscripts:
- ~1,500-2,000 words
- ~7-9 figures

Ways to present data

1. Mention within the text
2. List in tables
3. Illustrate in figures
Tense in Results section

Introductory statement: present tense
“IT is well-known that atmospheric pressure decreases prior to a tropical storm”

But in Results section: past tense
“Within 6 hours of tropical storms, atmospheric pressure decreased by 20 ± 6%.”

Order of presentation

What you did | What & how you present
---|---

Historical Logical

When can you delete data?
• When it is a peripheral to your story?
• When it complicates your story?

Results: Common Problems

• Use of present tense
• Too little or too much information
• Too much discussion
• Historical rather than logical order
• Misleading presentation of data
**Redundant publication**

- Is it "redundant"?
  - data in conference abstract
  - same data, different journal
  - different journal & language
  - same data on website
  - data included in review article
  - expansion of published data set

**How to combine data?**


Add to text: "For comparison, we have provided data that have been previously published (Smith, 2001)."

**Guidelines**

- Eliminate reasonable sources of confusion
- Author is responsible for clear communication
Falsification

Fabrication

Discussion

- What is its function?
- What should you include?
- In what order?
Discussion

Organization
1. Your observations
2. Patterns and relationships in your data set
3. Exceptions within your data set
4. Relation to previous work in the field
5. Theoretical or practical implications
6. Summary and conclusions

~1,500 words maximum

Discussion: Common Problems

• Poorly organized
• Inadequate scholarship
• Repeats introduction
• Doesn’t compare results with others
• No discussion of alternative explanations

Abstract

• What is its function?
• What should you include?
• In what order?
• How long should it be?
Abstract

organization

1. Introduction
2. Method
3. Results (past tense)
4. Discussion
5. Final summary

… and therefore conclude that the treatment will have no effect

Maximum: 250 words

Bibliography

What to cite?

• Your friends’ papers?
• Your papers?
• Recent review?
• Recent research paper?

Bibliography

• Cite earliest original references
• Include your own work
• Include (and deal with) contradictory findings
• Limited use of reviews ok
• Usually no more than ~6/point, 70 total
• Check each reference
  – Supports your point?
  – Accurate?
Impact factor

- What is it? Measure of citations per journal
- Why seek high impact journal?
  - Paper will be taken more seriously
  - Can help your career
    - Jobs
    - Salary
    - Promotion
    - Grants
    - Students

How to get your paper into a high-impact journal

- Have a hot topic of broad interest
- Have a very thorough set of experiments
  - Use several approaches
  - Examine hypothesis from many angles

How to get your paper into a high-impact journal

- Have a hot topic of broad interest
- Have a very thorough set of experiments
- Make it easy for editor, reviewer to appreciate
  - Strong, short title and compelling abstract
  - Convincing cover letter
  - Focus on critical information
  - Move less critical results, methods to supplement
  - Use clear, concise English (get feedback first!)
How to get your paper into a high-impact journal
• Have a hot topic of broad interest
• Have a very thorough set of experiments
• Make it easy for editor, reviewer to appreciate
• If junior, seek well known person as author
• Best to focus on positive findings

Example:
Development of new treatment
• Establish models
  – In vitro
  – In vivo
• Look at dose, time
• Use multiple measures
  – Behavior
  – Biochemistry
  – Immunochemistry
• Explore mechanisms

Pros and cons of aiming high
• Advantages
  – Higher impact journal
  – Bigger impact on field
  – Bigger impact on career
• Disadvantages
  – Less time to carry out subsequent studies
  – Will be expected to share your models, reagents
  – Could get “scooped”