How to write good research manuscript – a perspective from a journal editor.

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Steps for original research paper

- have a clear research question
- seek statistical advice
- use the right study design
- act ethically
- keep an open mind and minimize bias
- agree who will be principal investigator/author
- agree who will be authors and contributors
- agree to publish even negative results

Which articles would you like to read?

- Clear message
- Original
- Topical
- Reliable
- Of interest and relevance
- Well written
- Short

”The perfect paper”and Review Criteria

- Original – Innovative – Novel
- High scientific reliability and Valid
- Clinical impact
- Applicable to clinical practice
- Generalizable
- Implications for clinical pactice and future research
- Well written
- Brief

The basic element of a paper

- A paragraph
  - logically organized,
  - with an internal continuity,
  - telling a story

The paragraph

- A topic sentence – stating the message
- Organize supporting sentences so that they say something about the topic

End with a conclusion leading to the next paragraph

CRITERIA TO CONSIDER FOR SELECTING THE JOURNAL: JOURNAL INFORMATION/CONTENT

- JOURNALS USED BY YOURSELF/ MENTORS/ADVISOR/COLLEAGUES
- TYPES OF ARTICLES PUBLISHED (ORIGINAL RESEARCH, REVIEW, CASE STUDY)
- LENGTH OF MANUSCRIPT ACCEPTED
- REGUIREMEBT FOR SUPPLEMENTAL DATA

CRITERIA TO CONSIDER FOR SELECTING THE JOURNAL:

REPUTATION OF THE JOURNAL

- # YEARS IN PUBLICATION
- COST AND AVAILABILITY (JOURNAL COST EFFECTIVENESS)
- OPEN ACCESS
- PEER REVIEW STATUS
- IMPACT FACTOR

CRITERIA TO CONSIDER FOR SELECTING THE JOURNAL:

REPUTATION OF THE JOURNAL

- REPUTATION OF THE JOURNAL (PUBLISHER, EDITOR)
- ACCEPTANCE/REJECTION RATES (JOURNALS WITH LOWER ACCEPTANCE RATES ARE GENERALLY MORE PRESTIGIOUS)
- QUALITY OF ACCEPTED ARTICLES AND AUTHORS
- AUDIENCE OF JOURNAL (READERSHIP)
- AUDIENCE SIZE (INDEXING & CIRCULATION)

CRITERIA TO CONSIDER FOR SELECTING THE JOURNAL:

REVIEW PROCESS

- TIME TO PUBLICATION (SPEED OF PEER REVIEW, PRE-PUB ONLINE)
- PUBLICATION COSTS & AUTHOR FEES: (SHOULD FALL IN THE INDUSTRY STANDARD $1500 - $5000 RANGE)

IMPACT FACTOR

The Journal Impact Factor reflects the average number of citations to recent articles published in that journal. It's one measure of the *relative importance* of a journal within its field.
High impact factor ~ more important

IMPACT FACTOR

A = the number of times articles published in 2018 and 2019 were cited by indexed journals during 2020.

B = the total number of "citable items" published in 2018 and 2019.

$$A/B = \text{2020 impact factor}$$

Impact Factor

- **Seeks to measure the influence a journal has in its field.**
- **Uses "bibliometric analysis" of journals indexed in the ISI database. More specifically, it measures how often scholars and researchers have cited articles in a particular journal in the most recent two years.**
- **Simply put, the higher the number, the better the journal's impact factor.**
- **The better the journal's impact factor, the more influence it is supposed to have in its field.**

Manuscript preparation

Authorship

Openly discuss from the start who is to be an author

- Keep track of who did what
- Who *gets* to write the paper?
- Shared first authorship? Senior authorship?
- Authorship versus acknowledgment
- What do you get to take with you when you leave a lab?
- Everybody **must** agree
-

Manuscript preparation

Article title

No more than 15 words

- Informative, but not inflated relevance

- **Activated macrophages are essential in a murine model for T cell–mediated chronic psoriasis**

versus

Up-regulation of IL-7, stromal-derived factor-1α, thymus-expressed chemokine, and secondary lymphoid tissue chemokine gene expression in the stromal cells in response to depletion: implication for thymus "reconstitution"

What is a good title?

- A good title should be both informative and exciting
- Be careful with statements and ”conclusions” in titles
- A question in the title must be answered in the paper

Manuscript preparation

Cover letter

- 4-5 paragraphs MAXIMUM **Any more and we question why you are arguing so vehemently**
  Any less and you're being lazy

Should introduce the study and the authors

- Declare conflicts of interest
- Indicate that the findings are as yet unpublished
- Suggest referees and list exclusions
- Explain why your paper is important and novel

PROOFREAD IT BEFORE SUBMITTING

- **-correct journal, date, grammar**

IMRAD – structure of a manuscipt

- Introduction
  - Why?
- Methods
  - How?
- Results
  - What did you find?
- Discussion
  - What does it mean?

Manuscript Structure

- Abstract
- Introduction
- Body of Article
- Results
- Discussion and Conclusions
- Acknowledgements
- References Figures and Tables

Abstract

- Summary of Manuscript (200-300 Words)
- Problem investigated
- Purpose of Research
  - Methods
  - Results
  - Conclusion

Abstract

- **Common Mistakes**
  - **Too much background or methods information**
  - **Figures or images**
  - **References to other literature, figures or images**

Abstract

- Background
- Material and methods

- Findings
- Interpretation

- Background
- Objective
- Design
- Setting
- Patients
- Interventions
- Measurements
- Results
- Limitations
- Conclusions

Introduction

- Broad information on topic
  - Previous research
- Narrower background information
  - Need for study
  - Focus of paper
  - Hypothesis
  - Summary of problem (selling point)
- Overall 300-500 words

Introduction

- Common Mistakes
  - Too much or not enough information
  - Unclear purpose
  - Lists
  - Confusing structure
  - First-Person anecdotes

Introduction

- What have you done?
- Two aims:
  - Catch the interest of the reader
  - Helping the reader to understand the rest of the paper
- Three parts: Known , Unknown, Problem/Question

The introduction:

- Funnel from what is known to the question
- Tell a story
- Keep the number of references to a minimum
- State the question
- Keep it short!

(Mimi Zeiger, McGraw-Hill,1991)

Writing an introduction to the introduction

(J Techn Writing Comm 2009;39:321-9.)

- Scenario
- Event
- A statistic
- Scope
- Everyday occurence
- Statement of fact
- Definition
- Questiona
- Lack of research
- Overview
- Previous study
- Combinations

Methods and Materials

- Provides instruction on exactly how to repeat experiment
  - Subjects
  - Sample preparation techniques
  - Sample origins
  - Field site description
  - Data collection protocol
  - Data analysis techniques
  - Any computer programs used
  - Description of equipment and its use

Methods and Materials

- Common Mistakes
  - Too little information
  - Information repeated from Introduction
  - Verbosity
  - Results/ sources of error reported

Material and methods

- Study design
- How, when and where was the study performed?
- Data analysis plan
- Aim for six paragraphs

Results

- Six paragraphs describing what you found
- Systematic presentation of your findings
- Logical order
  - From general to detailed information
  - Cronological

Results

- Objective presentation of results
  - Summary of data
- **NOT a Discussion!**

Results

- Common mistakes
  - Raw data
  - Redundancy
  - Discussion and interpretation of data
  - No figures or tables
  - Methods/materials reported
  - Repeat tables and figures verbatim in text

Discussion

- What it all means in 6-7paragraphs
- Structure
  - Summarize main findings
  - Limits/strengths of your study
  - Interpretation (comparision with others)
  - Importance
- End with a clear message

Discussion

- Interpret results
  - Did the study confirm/deny the hypothesis?
  - If not, did the results provide an alternative hypothesis? What interpretation can be made?
  - Do results agree with other research? Sources of error/anomalous data?
  - Implications of study for field

Discussion

- Common Mistakes
  - Broad statements
  - Incorrectly discussing inconclusive results
  - Ambiguous data sources
  - Missing information

Figures and Tables

- **Tables**
  - **Presents lists of numbers/ text in columns**
- **Figures**
  - **Visual representation of results or illustration of concepts/methods (graphs, images, diagrams, etc.)**
- **Captions**
  - **Must be stand-alone**

Reference list

- Only published, openly available sources should be included
- References should be numbered consecutively as they appear in the text
- The reference list should be accordingly numbered and systematic:
  - Author(s) (according to journals)
  - Title.
  - Publication.
    - Article: Jounal (abbr), year;volume:page-page.
    - Book: Place of publishing: Publisher, Year.
  - DOI (digital object identifier)

References

- Check specific referencing style of journal
- Should reference:
  - Peer-reviewed journal articles, abstracts, books
- Should not reference:
  - Non-peer-reviewed works, textbooks, personal communications

References

- Common Mistakes
  - Format
  - Redundant references
  - Type of Reference

How to choose referees

- Option to **suggest** as well as **exclude** potential referees

- Most journals welcome suggestions, yet not all authors take advantage

- You may be equally or better placed than Editors to know who is best qualified to evaluate and recognize the impact of your work

- Provide contact information for 2- 5 potential referees

How to choose referees

WHO TO SUGGEST

Established investigators with broad knowledge of field

- Technical expertise to evaluate your experimental approach

Don't suggest:

- Researchers in the same Department, Institution or Company
- Your recent co-authors or collaborators
- Someone you acknowledge in the manuscript- provided reagents or a critique of the manuscript
-

How to choose referees

WHO TO **EXCLUDE**

- Valid reasons for keeping sensitive results out of competitors hands
- Be aware of Conflicts of Interest, financial or otherwise
- Know your assassins – individuals with a known bias

Don't exclude:

- Large numbers of excluded people

Decisions

REMEMBER:

- Don’t inquire about the status daily
- Very few papers are accepted upon initial submission

- Don’t be discouraged - all of us receive rejection letters

- Don’t take a rejection letter personally

Decisions

If you choose to SUBMIT ELSEWHERE:

- Did you send it to the wrong journal? Carefully consider your 2nd choice. **Remember to change your cover letter.**

- Recognize and fix major flaws before submitting to another journal

- Make a modest effort to incorporate Referee suggestions

- **WHY?** The same Referee may see it again

- Peer review <u>should</u> help you improve the paper

Decisions

If you are encouraged to REVISE and RESUBMIT:

- Endeavor to do so as quickly, BUT COMPLETELY, as possible.

- Remember that this may be your last chance to resubmit.
- Address the major issues with substantial revisions

  - Do all of the requested new experiments and analyses

  - Revise the text and figures as necessary

Decisions

When you REVISE and RESUBMIT:

- **Always be polite and respectful In your letter to be transmitted to the Referees, first thank him or her for their comments**

- **Write a point-by-point letter clearly outlining how you have addressed *every* point raised by the Editors and Referees in your revised manuscript**

- **If you cannot accommodate the demands, thank the Referee for the suggestion, but offer an explanation for why they are not possible at this time or beyond the scope of the current paper**

Conflicts and Competing interests

- **A person has a *competing interest* when there is an attribute that is invisible to the reader or editor that may affect his or her judgment. [such as payments, gifts, family employment, etc]**

- **Always declare a competing interest, particularly one that would embarrass you if it came out afterwards**

Misconduct

- *Fabrication*: making up data or results and recording or reporting them

  Falsification: manipulating research materials, equipment, or processes, or changing or omitting data or results such that the research is not accurately represented in the research record

  Plagiarism: the appropriation of another person's ideas, processes, results, or words without giving appropriate credit

Keep the Editor Happy

- **make sure the *message is clear* in the paper and**

abstract

- **Provide additional materials and information such as CONSORT checklist, details of any closely related papers and any previous peer review reports**

- ***communicate clearly and promptly!!!!!***

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Assignment

- Propose the title and authors of a manuscript from your research project.
- List three potential journals for submission.
- Send to lackland@musc.edu