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ENSURE - Educating students for developing high quality research skills

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The text lists three countries: Iceland, Liechtenstein, and Norway grants. To the right of 'Iceland' is a small logo consisting of three vertical bars of increasing height, resembling a bar chart.

ACADEMIC WRITING OF PROJECT PLANS AND SCIENTIFIC REPORTS

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Outline

What to do before you start writing a paper?

- How to write a quality paper?
- How to structure your paper?
- What type of language to use?
- Pay attention to technical details
- Cover letter
- What to do when you finish a paper?
- What ethical issues need to be respected?

What to do before you
start writing a paper?

STEP I: Looking back on your research

- Have you done something new and interesting?
- Have you checked the latest results in the field?
- Have the findings been verified by appropriate analysis and their significance verified?
- Are the methods/measurements valid and reliable?
- Can you describe the scope and limitations of the methods?
- Do your findings tell a nice story or is the story incomplete?
- Is the work directly related to a current hot topic?
- Have you provided solutions to any difficult problems?

If you have answered “yes” to all questions, then you can start preparing your manuscript.

STEP II: Thinking over your goals

1. What type of manuscript?
2. Who is your audience?
3. Which journal?

What type of manuscript?

1.Full-Length Methodology Research (Original articles)

2.Letters/Rapid Communications/Short Communications

3.Case Studies/Case report

4.Review Papers

- Self-evaluate your work: Is it sufficient for a full article? Or are your results so thrilling that they need to be revealed as soon as possible?
- Ask your supervisor and colleagues for advice on manuscript type. Sometimes outsiders may see things more clearly than you.

Who is the audience?

- Do you want to reach specialists, multidisciplinary researchers, or a general audience? You will need to adjust information and writing style accordingly.
- Journals, even in similar subjects, reach readers with different backgrounds
- Each journal has its own style; read other articles to get an idea of what is accepted
- Is the readership worldwide or local?

Which journal?

Consider:

1. Aims and scope (check journal websites and recent articles)
2. Types of articles
3. Readership
4. Current hot topics (go through recent abstracts)
5. Asking colleagues for advice

Sometimes it is necessary to lower one's sights or return to the lab/clinic to obtain more data

Access to Scientific Database

- Lucian Blaga University of Sibiu offers access to different Scientific Databases for its students;

I. Multidisciplinary Database with full-text:

1. ScienceDirect - Journals - Freedom Collection
2. SpringerLink Journals
3. ProQuest Central
4. Oxford Journals
5. EBSCO: Academic Search Complete
6. Sage HSS collection
7. MatSciNet

II. Bibliographical & Bibliometric Database:

1. Thomson- REUTERS Web of Knowledge
(Web of Science-ISI, Journal Citation Reports, Derwent Innovation Index)
2. Scopus

- More information here:

http://cercetare.ulbsibiu.ro/doc_DCS/proceduri/acces_baze_date_stiintifice.pdf

Format

- Consult and apply the list of guidelines in the “GUIDE FOR AUTHORS”
- Ensure that you use the correct:
 - Layout
 - Section lengths (stick to word limits)
 - Nomenclature, abbreviations and spellings (British vs. American)
 - Reference format
 - Number/type of figures and tables
 - Statistics

How to write a quality paper?

Two Questions for you

- What is IMRAD (Introduction, Methods, Results and Discussions ?
- Which part should you start with?

Article structure

- Title
- Authors
- Abstract
- Keywords

- Main text (IMRAD)
 - Introduction
 - Methods
 - Results and
 - Discussions / Conclusions

- Acknowledgements
- References

Write in a different order

1. Methods
2. Results
3. Discussion and Conclusion
4. Introduction
5. Abstract
6. Title

METHODS

The METHODS section should be the bulk of the paper and it must provide **sufficient information** so that a knowledgeable reader can **reproduce** the experiment.

METHODS

The METHODS section can be generally divided into several specific parts:

1. Define the population and the methods of sampling
2. Describe the instrumentation
3. Describe the procedures and if relevant, the time frame
4. Describe the analysis plan
5. Describe any approaches to ensure validity and reliability
6. State any assumptions
7. Describe the scope and limitations of the methodology

RESULTS

■ DO

- Use figures and tables to summarize data
- Show the results of statistical analysis
- Confirm the reliability of the method
- Justify the choice of methods
- Define the limitations of the method

■ DON`T

- Duplicate data among tables, figures and text
- Use graphics that illustrate data that can be easily summarized with text

Graphics

Figures and tables are the most effective way to present results.

BUT:

- Captions should be able to stand alone, such that the figures and tables are understandable without the need to read the entire manuscript
- Captions should not contain extensive experimental details that can be found in the METHODS section

The data represented should be easy to interpret

- Colour should only be used when necessary

DISCUSSION

- This is the most important section of the article. Here you get the chance to SELL your data! A huge number of manuscripts are rejected because the DISCUSSION is weak. For some methodology journals, the discussion and conclusions are lumped into one section.
- **Describe**
 - What your results mean?
 - Were the methods successful?
 - How did the findings relate to those of other studies?
 - Were there limitations of the study?

Tips for DISCUSSION

1. Make the Discussion correspond to the Results. BUT DO NOT reiterate the results.
2. DO NOT make “grand statements” that are not supported by the methods or the results

Example: “This novel treatment will massively reduce the prevalence of malaria in the third world”

3. DO NOT introduce new terms not mentioned previously in your paper
4. AVOID unspecific expressions such as “higher temperature” or “at a lower rate”;
USE quantitative descriptions
5. Speculations on possible interpretations are allowed. BUT these should be rooted in fact, rather than imagination.
6. Compare the published results with your own. BUT DO NOT ignore work in disagreement with yours – confront it and convince the reader that you are correct or better.

CONCLUSIONS

Describe

- How your work advances the field?
- Indicate applications of your work.
- Suggest future experiments that build on your work and point out experiments already underway as well.

Tips for CONCLUSIONS

Better to avoid:

- Downplaying negative results
- Making statements based on personal opinion without scientific support
- Repeating other sections
- Over-emphasizing the impact of your study

INTRODUCTION

- The Introduction is used to provide context for your manuscript and convince readers why your work would be useful in advancing that particular field of study.

Clearly address the following:

1. What is the problem you are ultimately trying to solve?
2. Are there any solutions?
3. What is the best solution?
4. What is that solution's limitations?
5. What is your work trying to achieve?
6. Outline what was done and achieved in the final outline what was done and achieved in the final paragraph

Tips for INTRODUCTION

- 1. Be brief, usually one to two paragraphs is appropriate. (Consult the **GUIDE FOR AUTHORS** for word limit) Long introductions put readers off. Introductions of Letters are even shorter. Try NOT TO make this section into a history lesson.
- 2. Cite a couple of original and important works, including recent review articles). However, editors DO NOT LIKE too many citations to references irrelevant to the work, or inappropriate judgments on your own achievements.
- 3. **DO NOT ignore** contradictory studies or work by competitors
- 4. **DO NOT mix** introduction with results, discussion, and conclusion or your data. Always keep them separate to ensure that the manuscript flows logically from one section to the next.
- 5. Expressions such as “novel”, “first time”, “first ever”, “paradigm-changing”.
- 6. Define any non-standard abbreviations and jargon standard abbreviations and jargon
- 7. Provide a perspective that is consistent with the journal that you are submitting to.

ABSTRACT

- Indicative (descriptive) abstracts outline the topics covered in a piece of writing so the reader can decide whether or not to read on. Often used in review articles and conference reports
- Informative abstracts summarize the article based on the paper structure (problem, methods, case studies, conclusions), but without section headings
- Structured abstracts follow headings required by the journal. Often used in Medical journals Check carefully which type fits the journal of your choice.

ABSTRACT

The quality of an abstract will strongly influence the editor's decisions

A good abstract:

- Is precise and honest
- Can stand alone
- Is brief and specific
- Uses no technical jargon
- Minimizes the use of abbreviations
- Cites no references

Use the abstract to **“sell”** your article

TITLE

- A good title should contain the fewest possible words that adequately describe the contents of a paper

DO

- Convey main findings of research
- Be specific
- Be concise
- Be complete
- Attract readers

DON'T

- Use unnecessary jargon
- Use uncommon abbreviations
- Use ambiguous terms
- Use unnecessary detail
- Focus on part of the content only

KEYWORDS

- Keywords are important for indexing: they enable your manuscript to be more easily identified and cited.
- Check the GUIDE FOR AUTHORS for journal requirements
- **Tips:**
 - Keywords should be specific
 - Avoid uncommon abbreviations and general terms except established abbreviations (e.g. DNA)
 - Medical Subject Headings (MeSH, National Library of Medicine):<http://www.nlm.nih.gov/mesh/MBrowser.html>

ACKNOWLEDGEMENTS

Acknowledge anyone who has helped you with the study, including:

- Advisors
- Financial supporters
- Proofreaders
- Typists
- Suppliers who may have given materials

Tips:

- State why people have been acknowledged and ask their permission
- Acknowledge sources of funding, including any grant or reference numbers

REFERENCES

Check the style and format as required– it is not the editor’s job to do so for you

- Harvard System (alphabetical by author/date):

Berridge, MJ 1998, Neuronal calcium signaling, Neuron vol. 21: pp. 13-26

- APA (American Psychological Association) System (alphabetical)

Berridge, M.J. (1998). Neuronal calcium signaling. Neuron21, 13-26

- Vancouver System (numbered in order or citation)

1. Berridge MJ. Neuronal calcium signaling. Neuron. 1998;21:13-26

Tips for REFERENCES

Check the GUIDE FOR AUTHORS to ensure the proper format. Make the editor's work easier and they will appreciate the effort.

Avoid

- Too many references
- Excessive self-citations
- Excessive citations of publications from the same region
- Personal communications, unpublished observations and submitted manuscripts not yet accepted
- Citing articles published only in the local language

Check

- Spelling of author names
- Punctuation
- Number of authors to include before using "et al."
- Reference style

The three “C”s

- Good writing possesses the following three “C”s:
 - **Clarity**
 - **Conciseness**
 - **Correctness (accuracy)**

The key is to be as brief and specific as possible without omitting essential details

Know the enemy

- Good writing avoids the following traps:
 - Repetition
 - Redundancy
 - Ambiguity
 - Exaggeration

You should avoid these common annoyances for editors

Technical details

- Layout
- Length
- Abbreviation

Layout

- Keep line spacing, font and font size consistent throughout – double-spaced 12-point Times New Roman is preferred
- Use consistent heading styles throughout and no more than three levels of headings
- Number the pages
- Number lines if journal requires – check the GUIDE FOR AUTHORS
- Order and title sections as instructed in the GUIDE FOR AUTHORS – Figure and Table sections are normally together following References

Length

“...25-30 pages is the ideal length for a submitted manuscript, including ESSENTIAL data only”

Julian Eastoe, Co-editor,

Journal of Colloid and Interface Science

Consult the GUIDE FOR AUTHORS for word and graphic limits

Letters or short communications have stricter limits on the length.

For example, 3000 words with no more than five illustrations

Abbreviation

Define non-standard abbreviations on first use in both the abstract and the main text

- Check the [GUIDE FOR AUTHORS](#) for a list of standard abbreviations that don't need defining
- Don't abbreviate terms used only once or twice in the entire manuscript – spell these out in full
- Acronyms: capitals not required in the definition unless a proper noun or start of a sentence

ubiquitin proteasome system (UPS)

NOT

Ubiquitin Proteasome System (UPS)

Cover letter

- This is your chance to speak to the editor directly
- Keep it brief, but convey the particular importance of your manuscript to the journal

This is your opportunity to convince the journal editor that they should publish your study, so it is worth investing time at this stage

Cover letter

- Include:
 - Editor name – Address to journal editor, not generic
 - First sentence – provide title, author list and journal name
 - Briefly describe:
 - your research area and track record
 - the main findings of your research
 - the significance of your research

Tips:

- Confirm the originality of the submission and what your purpose is.
- Mention what would make your manuscript worthwhile to the journal.
- DO NOT summarize your manuscript, or repeat the abstract.
- State the final approval of all co-authors as well as if your manuscript has been previously rejected.
- Mention other special requirements such as conflicts of interest
- Suggested reviewers, people who should not review.

What to do when you finish a
paper?

Final checks

- Revision before submission can prevent early rejection
- What can I do to ensure my paper is in the best possible state prior to submission?
 - Ask colleagues to take a look and be critical.
 - Check that everything meets the requirements set out in the GUIDE FOR AUTHORS – again!
 - Check that the scope of the paper is appropriate for the selected journal – change journal rather than submit inappropriately.

Post-referee revision

- Respond to all points; even if you disagree with a reviewer, provide a polite, scientifically solid rebuttal rather than ignore their comment
- Provide page and line numbers when referring to revisions made in the manuscript
- Perform additional calculations, computations, or experiments if required; these usually serve to make the final paper stronger

Accepting rejection

Don` t take it personally!

- Try to understand why the paper has been rejected
- Evaluate honestly – will your paper meet the journal’s requirements with the addition of more data or is another journal more appropriate?
- Don’t resubmit elsewhere without significant revisions addressing the reasons for rejection and checking the new GUIDE FOR AUTHORS

Accepting rejection

Suggested strategy for submitting elsewhere:

- In your cover letter, declare that the paper was rejected and name the journal
- Include the referees' reports and show how each comment has been addressed
- Explain why you are submitting the paper to this journal; is it a more appropriate journal?

Ethical Issues

Unethical behavior includes:

- Multiple submissions
- Redundant publications
- Plagiarism
- Data fabrication and falsification
- Improper use of human subjects and animals in research
- Improper author contribution

Conclusion: Getting Accepted

Publishers want quality

WANTED

- Originality
- Significant advances in field
- Appropriate methods, case studies and conclusions
- Readability
- Studies that meet ethical standards

NOT WANTED

- Duplications
- Reports of no scientific interest
- Work out of date
- Inappropriate/incomplete methods or conclusions
- Studies with insufficient data

Conclusions

- Look back and think it over before you start writing a paper
- Write it in a proper way:
 - IMRAD
 - Good Language
 - Watch details (Guide for Authors)
 - Write a cover letter
- Check your paper when you finish it.
- Revise the paper / Accept rejection
- Behave in an ethical way

Thank you!!
Questions