PhD Professional Development Series: *Writing Tips*

In the recent years, three PDS on writing tips were held. Tips were shared regarding writing in general, organising the work, finding time and motivation, and handling the revision rounds with the co-authors. We also shared tips based on our strengths and struggles when writing the different section of a manuscript: what is the part we are the most confident with, the part that we struggle the most with, how do we structure our text and which tools are we using to help writing?

Structure your text

- 1 paragraph = 1 topic. Start the paragraph with a topic / claim sentence explaining the content of the paragraph, followed by a few sentences supporting the claim.
- 1 sentence = 1 idea.
- Add sub-headings, it helps the reader to know what to expect.
- To learn more about that, some of the participants recommended the SLU course on academic writing

The different sections - Introduction

- Think about the reader when you write it: what should they know before they move on to the rest of the study.
- Don't spend too much time on the introduction if you're not sure of the contents of your material & methods and result sections, as you might have to re-adapt the introduction to these sections later on.

The different sections - Results

- Before writing the results, some of us struggle to stop analysing the data: try to stop when you don't have new results coming up or set a deadline for yourself. There is always more analysis that you can do, but it might not be useful to continue if it doesn't add anything relevant to the results you already have.
- What should be shared in the results? Should everything we found in the study be presented in the results part? Write all the results you have in tables and start writing the discussion. As you will not be able to discuss everything, writing the discussion "as it comes" will make you focus on the most important results. These are the ones to keep in the results section. The rest can be either removed or put in the supplementary material section. Note that there is often no limit on how much can be added to the supplementary materials in the journals, so don't hesitate to use them.
- If your results section feels too short, expand by adding context: for example, explain the purpose or a small story around it, like "these two individuals came from the same farm, and the model shows significant results for both…"
- If you use R to analyse your data, you can use R markdown that allows you to generate a report available on Word or PDF that could contain your code, the outputs and the notes you write. It can help keeping all your results organised and in the same document!

The different sections - Discussion

- It can be difficult sometimes to write the discussion when having different treatments in the results: what is a good balance between mainly comparing the treatments together or comparing them to other studies? A tip could be to write everything first: comparisons between treatments, treatments compared to other studies and sort the information after with the co-authors. As we are quite space limited, it will not be possible to keep both, but only the most important parts to keep the focus with some red thread.

Organising the text

When you know what you want to have in your text but don't know how to organise it:

- Write it as it comes and print it on a one-sided page. It is easier to organise it when you have the different text parts in front of you.
- You can also ask AI to organise it better for clarity.

Organising the literature you are gathering for your manuscript

- You can use Litmaps or Connected papers to visualise how different papers on the same subject are related together and it can help you to organise your text when citing them.
- If you gather the notes from the papers you read in a document and are searching for a specific information that you know you have read but can't remember which paper it was, you can give the document to ChatGPT and ask it to find the information you are looking for. But always make sure to double check that it is correct!
- You can also take notes on the different papers you read using Obsidian, a program that allows you to make notes and connect them together, creating a sort of mind map of your notes.
- If you save a lot of unread papers on Zotero or a similar software, try to sort them so that you can later identify quickly which paper is important to read for a specific manuscript!

Finding time and motivation to write

- Set a specific period for writing: you might find it easier to dedicate a full day to writing, or you may prefer writing a little each day (even just one sentence). Find the strategy that works best for you!
    - For example, booking a full day works for PhD students who need time to get back into their paper.
    - The longer periods you choose, the more space you can choose between writing sessions. For example, a full day every other week.
    - You can choose to keep writing during the summer when it is calmer if you do not need quick feedback from your co-authors who might be on vacations.
    - You could suggest a writing retreat with your co-authors or colleagues. The PhD writing days are available to you for example, where we sit in a nice room on campus, and alternate between writing sessions, asking each other questions or feedback if we need, and nice breaks 😊
- Reward yourself after writing: for example, bake something and enjoy it once you're done writing.
- Take breaks: for example, writing for 45 minutes, then taking a 15-minute break can be a good routine.
- Start with the easiest part: for example, the Materials and Methods section is often the easiest to begin with.
- Don't get stuck in the details; just write and revise later, your co-authors will likely edit the wording anyway.
- Use ChatGPT: for example, to find the right word, synonym, or rephrase awkward sentences (you can ask it to write scientifically). But use it wisely!

Starting to write a new paper

- If you are a young PhD student, a tip from older PhD students is to start writing as soon as possible. It will get easier! Remind yourself that no matter what you write, you will get some comments, so dare to start and send it.
- It may be easier to write after outlining your paper: for example, using a bullet point method can help:
    - Create a Word file for your manuscript.
    - Outline the entire structure (e.g., Intro, Methods, Results, Discussion).

    - Fill in each section with bullet points throughout the process (from literature review to experiments). Write everything down!!!
    - Or start writing after creating a poster that presents your project.
- Discuss the outline of each part with your co-authors before starting to write so that you can write with a good outline.
- At an early stage of writing, check the journal's submission template, for example to find the number of words, format for figures, number of tables allowed, etc.

When revising your text on your own

- Listen to your written text: it helps you notice problems with organisation and clarity. In the results, for example, it shows whether it is convincing enough or not. A tool is available through SLU's software center: TorTalk
- Use writing groups to share your text and get feedback from colleagues outside of your research group - it's often easier to receive feedback verbally than through Word comments. It also helps to have first feedback if you don't want to share it first with your co-authors. You can also offer to read a colleague's draft if they'll read yours.
- Do not revise your text all the time. For every new line that you write, you can reward yourself and go back to a previous paragraph.

Revising your text with your co-authors

- Have regular revision rounds with your co-authors. In the early stages, you can send the different sections separately so that you can still work on a section while waiting for your co-authors to read another section.
- If your text is too long, don't remove information before your co-authors see it. Send it and discuss with them what is relevant to keep or not.
- In general, if you're stuck, send it to your co-authors: they are co-authors and should write something in your paper, don't write it alone!
- Instead of waiting to send a draft when you think it is good, set a date with your supervisors / co-authors and send it no matter what. It is okay to send unfinished things, better so than to send them after having written everything. It might also be quicker to get feedback
    - Set deadlines to yourself - *Example:* Dear co-authors, I will send the first draft of my manuscript by XXXX.
    - Set deadlines for your co-authors too!!! - *Example:* Dear co-authors, please read the final draft of my manuscript within two weeks. I will assume by XXXX that everyone interested has reviewed it.
    - You can put these deadlines in everyone's outlook calendar so that it is visible and can remind everyone when it's approaching.
- You can use an external reviewer from your field before sending your manuscript to the journal: they can help revise the content with an external point of view.

In general, be prepared for criticism from co-authors or reviewers. You can google how reviewer comments typically look and how to respond. Don't take it personally.

Good luck with your writing!